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W. J. Francis

Museum of Vertebrate Zoology

University of California

Berkeley 4, Calif.

Journal

Jan. 23, 1962

to

Dec. 31, 1964

1962: Pp. 1-6
1963: Pp. 7-148.
1964: Pp. 1-72.
App.: Botanical specimen list.

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Journal

Jan. 23, 1962, Tuesday. Left Berkeley 0830, mileage 75526. Gas 10.1 gal. $3.20 at Bradley, mileage 75723, 1215. Arr. McMillan ranch at mileage: 75775.

References mentioned in discussion:

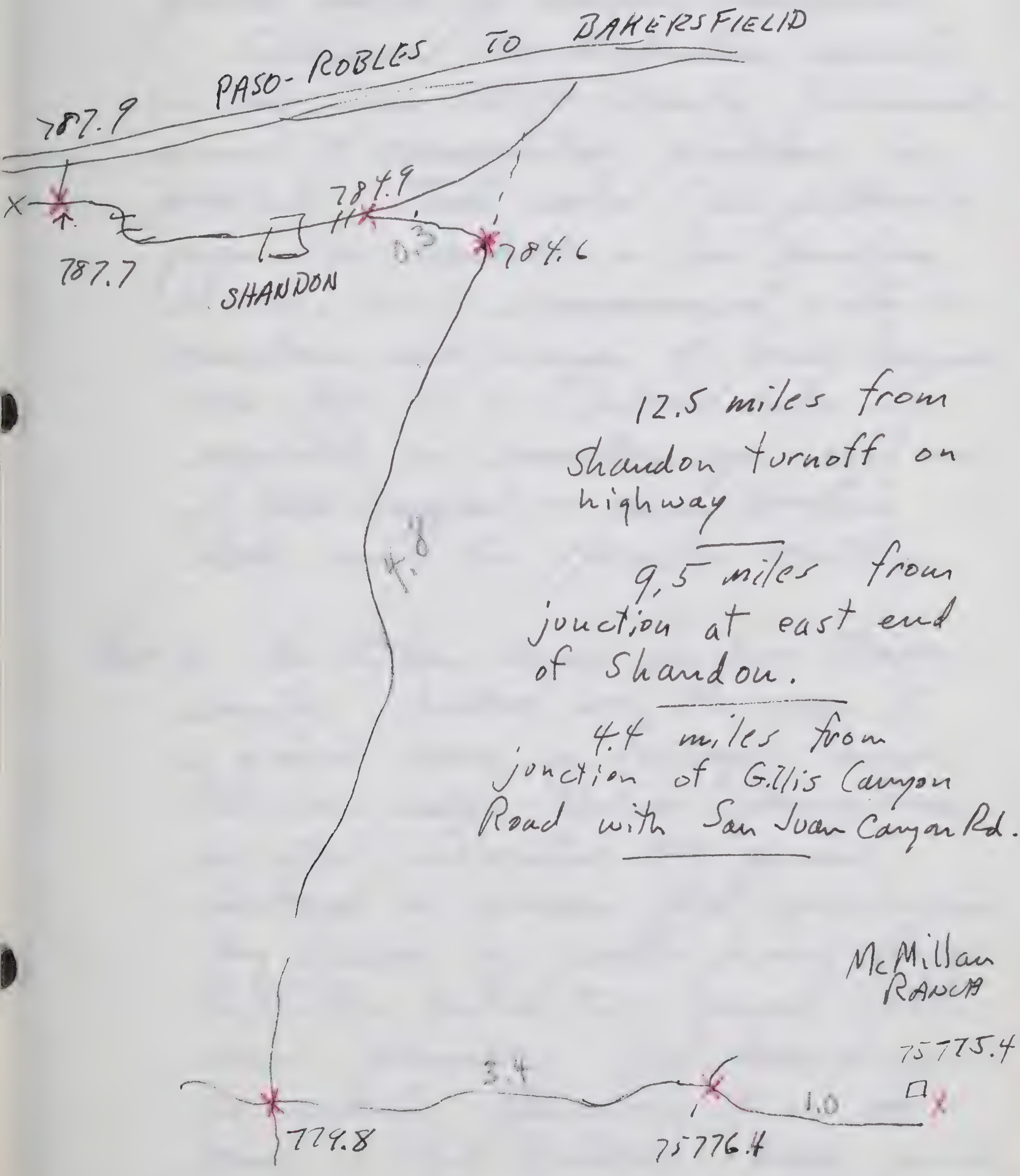
✓ A.H. Miller, 1951. Auk 68: 380-383.
✓ A.H. Miller, 1949. Science 109(2839): 546.
✓ Gallizioli, S., and W. Swank - Trans. 23rd. N. Amer. Wildlife Conf. 1958: 305-319
x Gallizioli, S., + E. Webb, Influence of Hunting upon Quail Populations. Ariz. Fish + Game, Sept. 1961, W-78-R-5, Work Plan No. 4, Job No. 3.
✓ Twisselman, E.C., Flora of the Temblor Range. Wasmann Journal of Biology. Fall 1956. U.S.F.
Bu. Mines - Geology of San Luis Obispo Co.

Jan. 24. Wednesday. Left ranch about 1400, to San Benancio Canyon.

Jan. 25. Left San Benancio 1400 arr. Berkeley (Coop Gas station) at 1618. Gas 13.2 gal, $4.10. Mileage home - 76049.

Est. corr. total mileage - 505, gas 23.2 gals., rate 21.8 mpg.

I. I. McMillan Ranch
near Shandon, Calif.



12.5 miles from Shandon turnoff on highway

9.5 miles from junction at east end of Shandon.

4.4 miles from junction of Gillis Canyon Road with San Juan Canyon Rd.

Journal

Nov. 10. Drove to Hastings Reservation to discuss Quail project with John Davis. Traps are available, with banding records back to 1939 and field notes of various observers.

Continued to McMillan ranch in San Luis Obispo County. Discussed quail & conservation problems in general. Took notes (see following pages) on localities in his hunting record, and summarized notes on numbers, sex + age of birds bagged 1946-1961. (ff.). Detailed data are available on number, age, and sex of birds bagged on each hunting date, and the specific locality.

Nov. 11. McMillan ranch, San Luis Obispo County. Walked over the area of a quail covey in Portugee Canyon - Pole-line ridge - Marion Spring area, sighted estimated 200 quail centered on grassy plot surrounded by brush on north-facing slope. McMillan killed two quail (both imm. female. We drove around the ranch flushing 100 or ~~so~~ birds in the "Willows" area, and seeing a number near the Old House.

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Quail Hunting Localities.

RED HILLS AREA:

Pole line + Marion Spr. | Sinton's Point
Portugee | Trees
Dean's Canyon
Cammatta on San Juan
Fire camp. | Black Mt.
Hughes canyon | Sulphur Trough
Middle Maltby | Pines
McCormack Can | Marion Spring
Weaver can. | Sandy C.
Lake ranch | Navajo.
Kelly's Canyon
Cammatta
Horse canyon.
San Juan

HUNTER LIGGETT AREA

TEMBLOR AREA
Elkhorn

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2 b.

NORTH San Joaquin
(A) Coalinga – Rambo's
(B) Devil's Den (25 mi. E).
(Orchard's Peak)
White City Canyon
Cottonwood Pass

South San Joaquin –

Diablo Range.
Parkfield

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McMillan Records

	♂	♀	Ad.	Imm
1946				
Red Hills	184	159	138	205
(Out of 99 adults: 55♂ 44♀)([illegible]				
1947				
Red Hills	244	242	185	301
1948				
Red Hills	140	124	112	152
1949	Ad. ♂	Imm. ♂	Ad ♀	Imm ♀
Red Hills	41	95	37	90
Old house	6	13	1	14
1950				
Red Hills	65	127	52	130
1951				
Red Hills	168	16	165	13
Cottonwood Pass	10	0	15	0
1952				
Red Hills	87	365	86	377
1953				
Red Hills	175	94	148	90
Cottonwood Pass	1	0	1	0
1954				
Red Hills	132	320	81	323
Parkfield	6	7	2	9
Elk Horn	2	6	3	7
1955				
Red Hills	184	302	137	309
Coalinga	13	8	16	16
Cuyama	1	0	2	0
~~Bl[illegible]~~				

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	Ad ♂	Imm. ♂	Ad. ♀	Imm. ♀
1956				
Parkfield	3	8	3	5
Cottonwood Pass	12	13	5	14
Coalinga	4	12	2	12
Red Hills	132	170	76	167
1957				
Temblor	5	6	4	3
Cottonwood Pass	8	2	8	2
Hunter Liggett	5	9	7	13
Coalinga	5	9	5	12
Red Hills	134	190	115	179
1958				
Temblor	4	55	4	48
Cottonwood Pass	7	14	4	8
Cuyama	1	6	1	6
Hunter Liggett	22	25	19	19
Red Hills	149	291	75	258
1959				
Cottonwood Pass	0	1	2	1
Temblor	9	0	4	4
Hunter Liggett	10	7	5	6
Red Hills	186	78	134	60
1960				
Red Hills	116	157	91	161
1961				
Temblor	0	16	2	10
Parkfield	3	1	5	0
Coalinga	8	6	8	4
Red Hills	179	112	137	101
Cottonwood Pass	2	0	2	0

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Nov. 11 (cont.) We discussed location of blind for future observation - best bet near watering trough at Marion Spring. Trap on the slope north of here is installed and ready to use. Also discussed Ike's theory of reduced light on reproductive urge - see note ~~#~~ following on controlled lighting effect on pullets.

At dusk drove to "old house" and observed Quail covey going to roost.

Clipping from "California Farmer", May 7, 1960. Peter Lert, Santa Clara County farm advisor, reporting on experiments at the Walter Johansen farm in Santa Clara County, on controlled lighting in pullet houses to increase production of eggs by 10 per hen (40 cases extra by 1165 hens in 203 days.).

At 8 weeks, pullet restricted to eight hours of artificial light in 24 hours. At 12 weeks reduced to 6 hours of light. At 20 weeks pullets put in laying house on 14 hours of light.

Agric. Ext. Ser. TH 8-4928 · Berkeley.

2320 Moorpark Ave.
San José, Calif.

Journal.

Dec. 28, Friday. Drove to Hastings Reservation, Carmel Valley, Monterey County, Calif., from Berkeley, via U.S. 101, Los Laureles Grade, and Carmel Valley Road (Jamesburg Route). Arrived after dark, and were shown quarters in the Davis house by Mr. Bell (maintenance man), consisting of large community kitchen, large dining room, double sleeping chamber with 4 single beds, and a fireplace. Dishes and kitchen utensils were provided, also ample blankets - memo. for future trips: need small saucepans and kitchen knives, paper towels - pans for baking, broiling, etc., in oven.

Dec. 29, Saturday. Hastings Reservation, Monterey County, California. Reconnoitred along creek downstream from head-quarters building 0705 to 0845. Weather clear and cold, with ice 1/4" thick on watering trough. Creek ravine with variety of shrubs and trees (willows, oaks, etc.). Narrow level open field on east side between creek and road. West

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side grassy hillside, some single and grouped live oaks. Two possible watering points for quail: overflow from pump about 1/4 mile from HQ buildings provides ground level pool. Watering trough about 1/2 mile downstream provides continuous drip (frozen this morning). No sign of quail anywhere along route – several thick live oaks apparently suitable for roosting but most contained squirrel nests. Many badger holes + wood-rat nests seen.

After sunrise, a herd of 11 deer seen on crest of hill to west grazing on open grass. 8 including 2 bucks remained together during 15-20 minutes observation. None identifiable as fawns.

11:30 Drove with Jim to McMillan Ranch, San Luis Obispo County (122 miles each way, plus 3 miles around ranch, total 247 miles). Observed quail hunting by variety of hunters. birds abundant. Talked with

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Dec. 29) Eben McMillan on quail fluctuations. Returned to Hastings Reservation with 13 specimens (7 for Ward Russell at MVZ to fill a request by Dr. Raitt).

Dec. 30. Hastings Reservation, Monterey County Calif. 0730 to 0900 made further reconnaissance, covering hills + brushy slopes to east of buildings, then up canyon above the barn. Watering trough here is above ground and not suitable for quail. Returned over grassy west slopes to pump house, thence to Davis house. No quail seen. Ample deer sign. Pair of bluebirds in large live oak, associated with large flock (well over 100) of house finches; also noted Brown Towhees, Rufous-sided Towhees, Yellow-billed Magpies, and Scrub Jays in abundance.

Returned to Berkeley in afternoon, mileage 142; total mileage this trip 531 miles.

Journal

Feb. 5. Berkeley Calif.

Bought 25 lbs. hen chow for bait, $1.40, Nunes Feed Store, 2852 San Pablo Ave.

0935. Pre-baited for quail trapping in a small grassy meadow at the head of Strawberry Canyon. Location - take jeep trail ~~off on~~ from Grizzly Peak Blvd., opposite miniature train, 1 mile south of Animal Behavior Laboratory, follow trail about 200 yards west over the ridge.

Feb. 14. Berkeley, Alameda County.

Began field trip at 0915 at head of Strawberry Canyon, starting at Grizzly Peak Boulevard, same location as above. Noted Scrub Jay, Varied Thrush, Juncos, and Rufous-sided Towhee just over ridge, on brushy west-facing slope. Weather: within stratus clouds covering tops of Berkeley Hills, visibility 100 yards, very light breeze, generally westerly; cool, estimated 55°. Active fog drip especially from Eucalyptus, ground quite wet.

Examined area of ~~pre~~-baiting - grain largely consumed, with bird droppings all around, no tracks. No quail seen or heard in the vicinity.

Berkeley

	Sunrise	Sunset	
Feb. 1	0714	1732	$10^h 18^m$
11	0704	1743	$10^h 39^m$
14	0701	1746	

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Feb. 14. Strawberry Canyon, Alameda Co, 1005 Clouds breaking; disk of sun visible from crest of ridge above Strawberry Canyon. A circuit of the surrounding area lasting until 1025 revealed no quail activity. At 1030 observed 3 ♂♂ and 5 ♀♀ quail feeding in grass inside miniature train track at Tilden Park South Gate. When slightly disturbed when I returned to car parked adjacent to the area they retreated slowly into the brush which covered about half of the enclosure.

1055. Shifted to vicinity of Animal Behavior Lab and scouted area around. Noted Brown Towhees, Bush-tits, Red-tailed Hawk, Sparrow Hawk. This area below base of clouds which are again quite thick, no sun visible; horizontal visibility about 3 miles. 1150 Bright sunshine (intermittent) clouds clearing rapidly. Saw 2 quail in Behavior Lab next to Bird Pen. All transplanted Baccharis in enclosure seem to be thriving; young eucalyptus are well brushed out & suitable roosts.

Berkeley

Date	Sunrise	Sunset	
Feb. 21	0652	1754	$11^h\ 02^m$
~~Mar~~. 28	0643	1801	$11^h\ 18^m$
Mar. 3	0638	1804	$11^h\ 26^m$

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Feb. 21. Strawberry Canyon, Alameda County, Calif. 1300 Installed and painted shelter in Animal Behavior Laboratory for weather recorder, borrowed from Entomology dept., courtesy of Dr. Ray Smith. Assisted and instructed by George Tamaki of the Entomology Dept. Second shelter taken home for cleaning & painting, later to be installed at Hastings Reservation.

Feb. 28. Strawberry Canyon, Alameda County, California. 1700 observed covey of quail at edge of brush next to grassy clearing on west facing slope just over crest of hill west of the Animal Behavior Lab. Baited feeding area with Poultry Mash.

March 3, Sunday. Strawberry Canyon, Alameda County, Calif. 0845 Checked trap (walk-in chicken wire type) at edge of brush outside of Animal Behavior Lab. Several quail in trap escaped by squeezing through 2" mesh wire netting on top of trap. One male failed to escape, and was captured as he was squeezing

Berkeley

(March 1)	0641	1802	$11^h 21^m$
	Sunrise	Sunset	
March 3	0638	1804	
4	0637	1805	

Hastings

March 3	0635	1801
4	0634	1802

March 3. Strawberry Canyon, Alameda Co.
under the side of the trap. This
was an adult bird, and was
released, and trap left open
until new smaller mesh top
can be installed.

1507 Left Berkeley (home) for
Hastings Reservation, mileage 35575.
arrived Hastings about 1830, mileage
35719, elapsed distance 144 miles.

March 4. Hastings Reservation, Carmel
Valley, Monterey County, Calif.
0630 Weather, Clear, calm. Light
frost over grass in bottom of valley,
not under shelter of trees.
Td 31° Tw 27° RH 58%(?), at 4'.
Looking for quail in vicinity of
houses. 0728 Sunshine now covering
completely east facing slopes. Psychron
reading at 4" in frosty field ~~32° 24°,~~
~~RH 24%, at 4'~~ Td 24° Tw
32° (wick frozen). At 4' Td 30°.
Under nearest chamise on hillside
32°. Edge of brush patch where
quail were flushed earlier 31.5° F.
Completed readings 0740.
0940 Completed reconnaissance
of slope south of Greenfield Road where

Berkeley

		Sunrise	Sunset
March	4	0637	1805
	5	0636	1806
	6	0634	1807

Hastings.

Mar.	4	0634	1802
	5	0633	1803
	6	0631	1804

Journal

Mar. 4. Hastings Reservation, Monterey Co.
a covey of about 25 quail have
been reported to feed (K. White).
None were seen or heard. Frost
remained on the ground where open
slopes remained shaded by the hills
1005. Eleven Band-tailed pigeons
flew into large sycamore at lower
end of the long meadow, 2 others
seen in tree on the hillside.

Mar. 5. Hastings Reservation Carmel
Valley, Monterey County, Calif.
0640 Heard quail in trees back
of Davis house, temp. 44° - 36°,
R.H. 43%. Weather clear, slight
downslope wind, no dew or frost.
Psychron reading in low exposed
grassy field, at ground level,
31½°, 29½°, RH 78%

Mar. 6. Hastings Reservation, Carmel
Valley, Monterey County, Calif.
0607 Began early morning field trip
for quail. Weather clear with
few thin high clouds, calm (very
slight easterly downslope breeze. Observed
near quail roost above Davis house.
0632 Psychron reading 41.5° - 36.5°,
RH 62%, at edge of brush.

Journal.

March 6. Hastings Reservation, Monterey Co.
Painted instrument shelters & made board shelter for probe in grass. 1135 made following Kodachrome pictures (Argus C-3, 35 mm.):

#~~12~~ 12. Looking N (mag.) toward shelters. 1/50, f5.6.

#~~13~~ 13. Looking W (mag.) toward shelters. 1/50, f5.6.

1152. Saw quail south of roost area.

1415 Completed installation of Foxboro sensors. Blue-ink probe in brush inserted into 1 qt. oil can so that end of probe is near open end of can (within 1"); chiseled 1/2" slots at about 3/4" intervals in side of can all around, and placed can on ground in center of large _Ceanothus_ bush with opening facing about north, end of probe 2" above ground. Red-ink probe in grass was taped to under side of 1"×6" board, slanted from side of small shelter (18" high) to two stakes in ground holding end of board 2" high. Sensor of probe is 2" above grass in this position. Make time-check on Foxboro chart at 2:15 p.m.

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Mar. 6. Hastings Reservation, Monterey Co.
Also checked clicks of wind pen — 18 clicks will reverse pen direction; with anemometer set to make contact each 1/2 mile, pen reverses with 1 1/2 miles of air flow, or 3 miles per complete pen cycle.

Checked magnetic declination on chart - 16 1/2 ° E. Oriented board holding red-ink (grass) sensor to extend due south.

1455. Cumulus clouds increasing all afternoon have become overcast, with rain visible to the west. Few very light showers intermittent 1505 - 1525. No quail seen or heard in and around Quail Hollow and ridge to south. Clouds becoming broken after 1525.

Brush on above slope composed of Ceanothus cuneatus and Adenostema fasciculateum. Bare ground beneath for the most part except for regularly spaced Pedicularis densiflora (Indian Warrior).

Berkeley

	Sunrise	Sunset
March 7	0633	1808

Hastings

March 7	0630	1805

McMillan's

March 7	0621	1756

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March 7. Hastings Reservation, Carmel Valley, Monterey County, Calif.
0705-0715. Observed quail covey near Davis house. Weather partly cloudy and calm.

Supplies needed for next trip:
Kitchen cleanser + scouring pads.
Small saucepans.
Containers for left-overs.
Dustpan! Soap - hand + bath.
Kitchen knives. Mess. cup.

0900 Departed for Shandon, mileage 35,719. 0942 Arroyo Seco junction, 35,734. 0959 Greenfield 35,747 1108 Paso Robles 35,812. Gas + Grocery stop. Underway at 1118. Arrived McMillan Ranch 1159; 35,841 mi.

1305. Observing birds in vicinity of ranch house. Weather partly cloudy with 5/8 cumulus, mostly with vertical development limited to about 4000' thickness; typical unstable cold air mass. Many house finches in treetops and telephone wires, many of them singing. Mockingbird, Rufous-sided Towhee, Brewer's Blackbirds, Raven, Lark Sparrows, White-crowned

Berkeley

	Sunrise	Sunset
March 7	0633	1808
8	0631	1809
9	0630	1810

McMillan's.

March 7	0621	1756
8	0619	1757
9	0618	1758

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March 7. McMillan Ranch, San Luis Obispo Co.
Sparrows, Mourning Doves, around house. Stubble field south of road: Horned Larks, Meadowlark. Next field over ridge, Loggerhead Shrike. In brushy slope, California Quail, Brown Towhee. Between pasture and stubble field: Say's Phoebe.

March 8. McMillan Ranch, San Luis Obispo Co.
Awakened at dawn by quail noises just outside my bedroom; sky still gray, clear and calm. Many Brewer Blackbirds in roost after quail left.
1000 Trip to Navajo Ridge to observe California Condors. On return via Camatta Canyon about 1430, stopped to investigate Golden Eagle nest. Male flew from nearby perch, female observed on nest for about 5 minutes, then flew off in same direction as the male.

March 9. McMillan Ranch, San Luis Obispo County, Calif. 0615 Observing Quail around the ranch house. Weather, nearly overcast with stratus estimated at 5000' breaks visible over Salinas Valley to west.

Berkeley

		Sunrise	Sunset	
March	9	0630	1810	
	10	0628	1811	
	11	0627	1812	$11^h 45^m$
	12	0625	1813	
	13	0624	1814	

McMillan's

March	9	0618	1758

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March 9. McMillan Ranch, San Luis Obispo County. Light intermittent rain between 0700 and 0730 totalled .02 inch. 1015 installed Friez Hygrothermograph in shelter, gave shelter final paint coat, and checked with Psychrometer readings:

Hygro-thermograph T - 55° RH - 49%
Psychron T_D - 56.5 T_W - 49.5 RH - 61%.
Reset H-Th to 58°, RH - 57%
with Psychron 56.5, 49.0, RH - 59%
1135 Kodachrome #14. Instrument shelter at McMillan's, looking due West (T), 1/30, f.8.
1140 Left for Berkeley, mileage 35841.
1608 Arrived home, mileage 36075, total distance 234 miles; round trip 500 miles.

March 13 Wednesday. Strawberry Canyon, Alameda County, Calif. 0835 Checked trap, no quail. 1000 Installed small instrument shelter adjacent to shrubby Eucalyptus in pen in Behavior Lab, with south-extension of 1"×6" board to shelter grass probe of Foxboro recorder. Positioned probes:
Green: reading 10°F. low - 2" above grass clearing, sheltered under

		Sunrise	Sunset
March	13	0624	1814
	14	0622	1815
	15	0621	1816

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March 13. Strawberry Canyon, Alameda Co.
1"×6" board extending due south, in order to avoid direct sun rays while sampling air freely at this level.
Purple: reading +10°F. - 2" above ground level in thick part of shrubby Eucalyptus.
Red: reading on temp. - within small instrument shelter.
Purple probe in brush occasionally gets direct sun - needs tin can shade.
1140 Completed painting small shelter + touching up large shelter with high-gloss white enamel.
1150. Took Kodachromes -
#~~14~~ 15 - Looking due north at instrument shelters, 1/50, f. 5.8.
#~~17~~ 16 - Pen in behavior lab, looking east from window of observation hut. 1/50 f.5.8

Mar. 15. Checked behavior pen birds at 0825. Weather bright, clear, cold, with frost on roof tops. Min. temp. over grass in pen 28°F.
Checked weight of feed: 1 lb. coffee can of feed weighs 25 oz. net (Tare 1/4 lb.).
Rebuilt + baited funnel trap and separate Bailey trap.

		Sunrise	Sunset	
March	16	0619	1817	
	17	0618	1818	$12^h 00^m$
	18	0616	1819	
	19	0615	1820	
	20	0613	1821	$12^h 08^m$
	21	0612	1822	$12^h 10^m$

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March 16. Strawberry Canyon, Alameda Co., Calif. Observations in Behavior Lab. Weather overcast with breaks, rain ended near noon. 1400 Rain gage 1.10 inches. Scattered a can of grain (25 oz.) in addition to that put out when quail were penned. This is calculated to provide 4 days food for 8 quail by Sumner's data.

March 17. Strawberry Canyon, Alameda Co. 1410 Checked pen in behavior lab. and set quail trap. Weather: sctd to brkn CU, intermittent sunshine.

March 18. Serviced trap at 0840 and checked pen. Checked pen at 1430, found dead quail, others OK. Placed white-enameled coffee can shelter over temp. probe in shrubby Eucalyptus.

March 19. 0815 Serviced trap. Collected California Thrasher for N.K. Johnson, and released Fox Sparrow & banded quail.

March 21. Observations in pen 0845 to 0915. Weather overcast with thin AC and AS, sun occasionally shining through. Visibility about 3 miles over

	Sunrise	Sunset
March 21	0612	1822
22	0610	1823
23	0609	1824

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March 21. Strawberry Canyon, Alameda Co., Calif.
the bay, somewhat better in the hills.
Light winds. 0915 to 1010 Set and
baited quail trap, walked over road
below Behavior Lab. Resumed pen
observations till 1105, break till
1325. Scattered ½ can (2 days ration)
of chicken feed. Old feed not yet
consumed.
Sunrise 0612 Sunset 1822.

March 22. Strawberry Canyon, Alameda County.
Began observations in pen at 0545.
Weather cool + moderately windy, sky
overcast with breaks, AS and SC. Sunrise. 0610. 0613 Single band-tailed
pigeon flew into Eucalyptus below pen.
Wind gusty + turbulent swaying tops
of tall Eucalyptus most of the time
frequently ruffling low growth within
pen even without very great wind speed.
Clouds are sufficiently high and
with breaks that light is not
greatly reduced. Left post at 0730.
At 1120 rain commenced falling
steadily (in North Berkeley hill area).

Berkeley

	Sunrise	Sunset
March 24	0607	1824
25	0605	1825

Hastings

March 25	0602	1822

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March 24 1963. Strawberry Canyon, Alameda County, Calif. 1630 to dusk observing quail in pen in animal behavior lab. Psychrom readings at W. corner of enclosure:
initial: 56.5 - 47.0 - 48%
final: 53.0 - 46.5 - 62%
Scattered 25 oz. can of chicken feed at beginning of observation.

March 25, Strawberry Canyon, Alameda Co.
0818 Observing at Behavior Lab pen.
1310 Departed home for Hastings Reservation, mileage 36363.
1327 - U.C. 36366. 1455 - Morgan Hill (milk-shake) 36434.
1547 Salinas 35474
1645 Arrived Hastings (mileage - 36507) and went immediately into field looking for covey near house.

1806. Hastings Reservation, Monterey Co. Psychrom reading 48.5, 44.5, 73.%
at ground level on field where quail had been feeding.

Berkeley

	Sunrise	Sunset
March 26	0604	1826

Hastings

March 26	0601	1823

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March 26, Hastings Reservation, Monterey County. Observing in territory of quail covey near houses beginning 0530. 0555 Psychron reading 34.0°, 33.5°, 95%. Heavy dew, calm, sky overcast with AC and AS. By 0700 there was a solid AS ovcst, lightened in east by the sun.

Excerpts from Weather Log kept for me by Dr. Keith White:

" 7 March. Intermittent showers during late P.M. of 6 March, and evening.

9 March. .05 inches at 8 A.M. after 8 March evening showers.

15 March. Rain 14 March from 3 P.M. to about 9 P.M., 0.39". .... The rain yesterday was snow at higher altitudes — top of Red Hill, Arnold Place, top of Poison Oak Ridge. There was only a little bit here at Hdqtrs, and this had melted by morning. A good wind with this storm from the north.

16 March. 8 a.m. Raining.

17 March. Rain stopped 16 March about noon, intermittent snow later.

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March 26. Hastings Reservation Monterey Co.
"about six inches of snow this AM (Mar. 17) up at Cahoons, in Paso between Carmel Valley and Arroyo Seco.
6+ quail were seen at 11 a.m. in small field between Davis house and creek.
"20 March. Cal. quail heard calling near water tank at 3 P.M.
"21 March. 2 P.M. heard, + then saw 12+ quail above trail and below weather station.
"22 March. Showers began at noon.
"23 March. Raining at 9 A.M.
"24 March. Rain stopped about 10 or 11 a.m. on 23 March - total of .63".
— end excerpts.

Collected botanical specimens the rest of the morning.
1300. Ektachrome photo, # ~~[illegible]~~ 17. Looking NE up central valley of the Reservation, in head quarters area, 1/50, ~~[illegible]~~ f. 11.
18. Looking N 30°E from same location, quail roosting and feeding area.
Weather has cleared to only scld. Ci clouds, calm, sunny, and quite warm.

	Berkeley	
	Sunrise	Sunset
March 27	0602	1827
	Hastings	
March 27	0559	1824

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March 26. Hastings Reservation, Monterey County. 1620 Resumed field observations of quail. Weather has again closed in to Overcast with breaks, AC, SC, & ST; moderately gusty wind.

March 27, Wednesday. Hastings Reservation, Monterey County. 0600 Started out on quail observing, headquarters covey. Weather noticeably warmer than this time yesterday, nearly calm. Sky overcast AS, with dark low NS moving in from NW. After a break from 0700 to 0800, I set out on a more extensive tour of the reservation. A few breaks appeared and sunlight brightened SC in the east.

At 0813 adjusted position of Red Foxboro probe (over grass) to improve protection from evening sun.

0940. Near the top of the hill south of Davis house, came on 3 resting bucks; all showed beginning of antler growth. One, darker in color of coat and larger, had antler stubs 3-4 inches long with a suggestion of a fork - the others had only inch long cylindrical stubs.

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March 27. Hastings Reservation, Monterey County.
At 0947 saw 4 does at very crest of this hill. 0950 a pair of Golden Eagles soaring overhead, gradually working to the west. 1004. A flock of about 30 (or more) Band-tailed Pigeons in large oaks in clearing on top of ridge SW of peak. Continued flushing pigeons in open oak woodland as I continued down slope to the road, and back to house at 1030.

Following supplies left here:

2 dry cereal
1 coffee
1 can soup
5 pkg. soup mix
Salt & pepper shaker.
2 single sheets, 1 pillowcase
Can sugar
1 Mexi-corn
1 Sauerkraut.
1 Kitchen Knife.

Small cleanser
Brillo
Small detergent
1 soap

Weather during the morning has been variable, mostly cloudy but some sunshine, wind turbulent, occasionally strong from SE, and a few short rainy periods.

	Berkeley Sunrise	Sunset
March 28	0601	1828

	Hastings.	
March 27	0559	1824
28	0558	1825

	McMillan's	
March 27	0550	1815
28	0549	1816

W. J. Francis
1963

Journal

Mar. 27. Hastings Reservation, Monterey Co.
1140. Left for McMillan's, (mi. 36507)
1502. Saw group of over 40 Cinnamon Teal in San Juan Creek, near bridge in Shandon, San Luis Obispo County. Males were in greater numbers and displaying antagonism.
1528 Arrived McMillan Ranch, San Luis Obispo County. (mi. 36627).
1545 to 1735 I tramped around the covey area near Marion Springs - Weather overcast AS with sctd to brkn low dark clouds, wind rather strong, with occasional strong gusts of turbulence.

March 28. McMillan Ranch, San Luis Obispo County. Rain during the night, cool and windy in the morning at 0530, with low stratus overcast obscuring tops of hills adjacent to the ranch house. Observed quail leaving roosts until 0555. Then along road to old house until 0700, when sun began to break through. Bright and sunny with sctd. cu by 0830.
0900. Started out by pick-up along the Camatti, observing quail along road.
1005. At eagle nest, arrived just as one

	Berkeley	
	Sunrise	Sunset
March 29	0559	1829
	McMillan's	
March 29	0547	1817

W. J. Francis
1963

Journal

March 28, Carnatti Canyon, San Luis Obispo County. bird was leaving nest, and saw the other (presumed ♀) soaring nearby.

Took station on hill in upper San Juan overlooking a sheep carcass to look for condors; no success. At 1430 drove down Navajo Canyon & saw a Condor perched on dead stump; observed it until 1700, and returned to the McMillan Ranch.

March 29. McMillan Ranch, San Luis Obispo County. 0545 Weather - Sky obscured, surface fog with visibility less than 1/4 mile. Sun broke through temporarily at 0610 for about 5 minutes, showing blue sky, then closed in again. From local conditions I judge this to be true fog rather than a stratus cloud capping the hills, since the valleys below were thicker, and top was not too far up. Sun again at 0730.

Checked hygrothermograph clock - still seems a little slow (having been set to maximum "fast" setting last night).

W. J. Francis
1963

Journal

March 22 McMillan Ranch, San Luis Obispo County, California.

Checked hygrothermograph readings: Psychron - 43°, 42.5°, 96%. Hygrothermograph - 44°, 104% (est.)

0800 left on walking tour of the Marion Spring - Pole-line Ridge - Portuguese Canyon area, also collecting specimens of dominant plants in this area. Watched a coyote for some time as it was watching me in a position near a probable den. Returned at 1220.

1530 Kodachrome #19. View to NE showing McMillan ranchhouse and quail refuge. 1/50, between f.8 & f.11.

#20. Closeup of Atriplex in back of ranch house, 1/50, f.8.

B.&W. Photo #1, 1/100, f.16. Close-up of instrument shelter.

1630 Took station near barn to observe quail coming in to evening feeding and roosting area. Weather clear and sunny, few clouds on horizon to west and north, moderate westerly wind, rather cool.

Berkeley

	Sunrise	Sunset	
March 30	0558	1830	
31	0556	1831	12h 35m

McMillan's

March 30	0546	1818

W. J. Francis
1963

Journal.

March 30. McMillan Ranch, San Luis Obispo County, California.
Observed quail leaving roost and dispersing from 0500 to 0600. Weather clear and calm, but with dense fog visible in the valley below, extending to the far side of Portuguese Canyon. At 0615, as the sun came over the eastern hills, fog thickened locally and obscured the sun completely within 5 minutes.
1025 Departed for Berkeley, mileage 36628. 1200 King City (36709) Gas and lunch to 1220. Arrived Berkeley (UC) 1515, home at 1540, mileage 36865. Total distance 502 miles.

March 31. Strawberry Canyon, Calif.
1540. Observing in pen in Behavior Lab. Took B&W. photos:
#2 Interior of pen from W corner, 1/75, f.16 (Plus-X Pan, ASA 160).
#3. Weather station, 1/75, f.16.
#4. Close-up of shelter open to show Foxboro Recorder. 1/75, f.16.
#5. Eucalyptus shrub in E. corner

Date.	Sunrise	Sunset	
March 31			
April 1	0555	1832	$12^h.37^m$
2	0553	1833	
3	0552	1834	
4	0550	1835	

W. J. Francis
1963

Journal

March 31. Strawberry Canyon, Alameda Co., Calif. of pen, and adjacent tall grass, where quail often roost & take cover. 1/75, f.16. Weather. Clear and sunny, with few sctd. CU, after brkn to ovcst this morning with sctd. light shwrs. Wind moderately strong & gusty.

April 1. Strawberry Canyon, Alameda Co., Calif. 0814 Began check at pen in Behavior Lab. Weather clear & sunny, few SC over coastal mountains, light wind. Serviced instruments & left at 0845.

April 2. Strawberry Canyon, Alameda County. 0614. Took observation post in behavior lab pen. Weather calm, visby est 6 miles, sky broken CI and CiCu, sctd SC over crests of hills, heavy dew, dripping from roof of observation hut. 0640 Sun cleared hills, first sunlight on ground in pen; band of thick clouds partially obscured sun until 0724. Ended obs. 0825.

April 4, Strawberry Canyon, Alameda County. 0825 Commenced period at Behavior Lab. Weather calm & sunny, brkn to ovcst thin St and As, hazy.

Date	Sunrise	Sunset
April 4	0550	1835
5	0549	1836
6	0547	1836
7	0546	1837
8	0544	1838

Journal

April 4. Strawberry Canyon, Alameda County. 0845. Made Psychron checks of temperatures.

April 6. Strawberry Canyon, Alameda County. 0915 Checked pen in Behavior Lab and read weather instruments. No quail visible. Weather: overcast with low thick clouds, pen within cloud base with visibility less than 1/8 mile. Moderately strong gusty wind, light rain, intermittent light to moderate for more than 24 hours past. Saw 6 quail when I entered pen.

April 7, Strawberry Canyon, Alameda County. 1105 Checked pen in Behavior Lab. and read rain gage. Weather broken CU, mostly congestus, moderate wind with light turbulence.

April 8. Strawberry Canyon, Alameda Co. 1610 At Behavior Lab Pen; weather fair with sctd CU after night and morning showers. Rain gage 0.15". Light to moderate SW wind without turbulence. Serviced instruments. At 1731 the sunlight was off the ground surface within the pen. 1800. Entire structure pen in shadow; end obs.

Berkeley

Date	Sunrise	Sunset
April 9	0543	1839
10	0541	1840
11	0540	1841

Hastings

April 11	0537	1838

W. J. Francis
1963

Journal

April 9. Strawberry Canyon, Alameda County, California - 1410. Checked instruments & penned quail in Behavior lab. Weather fair & bright sun, sctd CU, moderate wind with light turbulence. Very heavy shower occurred over Oakland early this morning, with 0.26" rain here, vegetation in the pen pretty well dried off.

April 10. Strawberry Canyon, Alameda County. 1108 Checked pen in Behavior lab. Weather: ovcst CU with breaks, moderate wind with moderate turbulence.

April 11. Berkeley, Alameda County. Left for Carmel Valley, mileage 37,135, at 1015. Arrived Hastings (37,280) at 1610. Made short trip in ridge area across Greenfield road, continuing till 1700, and extending to grassy area on top of ridge with interspersed brush - poison oak predominant. 1705 Covered area on hill above Davis house until 1735. Returned to Carmel Valley for the night. (Canary Cottages - very nice, quiet). Total mileage

Berkeley

Date	Sunrise	Sunset	
April 11	0540	1841	$13^h 01^m$
12	0538	1842	
13	0537	1843	
14	0536	1844	

W. J. Francis

1963

Journal.

April 11. Carmel Valley, Monterey County. One way to Hastings 145 miles, @ 7¢/mile = $10.15.

April 12. Berkeley, Alameda County. Returned home via Carmel, Del Monte, Santa Cruz and Highway 1 to San Francisco, mileage home 37,473; 193 miles return trip, total for trip 338 miles.

April 13. Strawberry Canyon, Alameda County. 0745. At pen in Behavior Lab. Weather overcast with ST, rain during previous night left ground quite wet. Moderate wind without turbulence, Vsby over 10 miles. Noted ♀ House Finch inside the pen.

April 14. Strawberry Canyon, Alameda County. 1608 at Behavior Lab pen, weather overcast CU with heavy showers occurring since last night; occasional breaks in clouds. Wind generally strong & turbulent, but relatively quiet in pen under shelter of surrounding Eucalyptus trees. Intermittent showers during observation. Low clouds clearing and rain stopped by 1700.

Date		Sunrise	Sunset
April	15	0534	1844
	16	0533	1846

W. J. Francis
1963

Journal

April 15. Strawberry Canyon, Alameda County, California. Arrived at pen in Behavior Lab 0918; weather overcast with CU and SC, rain intermittent in light and moderate showers since noon yesterday. Light rain falling at 0918, stopped at 0929. Wind practically dead calm, occ. light breeze. Ground very wet from past rains. Humidity est. 100%. 0934 as sun appeared, 6 birds in sight in area E-1. Black + yellow ♀♀ close together, then a pair very close together, and two ♂♂ separated a few feet. 03 ♂ and 05 ♀ emerged from bur clover at 0937. Birds are engaged in preening + ruffling feathers. 0940 Sun behind clouds, but sky still bright. Ended obs. at 1024.

April 16. Strawberry Canyon, Alameda County. 1125 Serviced instrument and removed battery. Weather ovcst CU, light wind. 1515 Returned with replacement battery as a very heavy shower passed to the west, giving only light rain and some soft hail at this station.

Date	Sunrise	Sunset.	
April 17	0531	1847	
18	0530	1848	
19	0529	1848	
20	0527	1849	
21	0526	1850	$13^h 24^m$

W. J. Francis
1963.

Journal.

April 17, 1963. Strawberry Canyon, Alameda Co. 0830 at Behavior Lab pen to read instruments + work on wind recorder. Weather clear, sunny with very light wind. Ground still very wet from past showers.

April 18, 1963. Strawberry Canyon, Alameda Co. 0823 at Behavior Lab Pen for instrument work.

April 19, 1963. Strawberry Canyon, Alameda Co. Rain most of last night, clearing this morning with bright sunshine 0730 to 0800, shower from 0830 to 0845 followed by intermittent sun. No wind, ground very wet. Checked trap at 0845, no birds, no bait eaten around it. Worked on clearing excessive growth in Behavior Lab pen, and left at 0945.

April 21, 1963. Strawberry Canyon, Alameda County. At pen in Behavior Lab 1730 to 1755. Weather locally broken to ovcst with CU clouds over hills, moderate NW wind without turbulence.

Date	Sunrise	Sunset
April 22	0525	1851
23	0523	1852
24	0522	1853
25	0521	1854
26	0519	1855

Journal.

April 22. Strawberry Canyon, Alameda County. 0830 Serviced instruments at Behavior Lab. Weather 9/10 CU, few AC, very light winds.

April 23. Strawberry Canyon, Alameda Co. 1840 At pen in Behavior Lab. Weather clear and calm. Sun behind hills, so that pen and surrounding tall Eucalyptus trees were completely shadowed, with light intensity decreasing quite rapidly. By 1915 dusk was too deep to distinguish any quail which might appear; left obs. post. Sunset 1852.

April 26. Berkeley, Alameda Co. 0600 Noted quail on Miller Ave in Berkeley Hills. At Strawberry Canyon Behavior Lab 0610. Weather clearing after intermittent rain beginning before light yesterday morning. Sun beginning to break through clouds over Grizzly peak and fog remaining in the canyon center. Otherwise sky with 3/10 cirrus and some CU over bay and coastal hills, no wind. At 0627 the first sunshine on the ground

Date	Sunrise	Sunset
April 26	0519	1855
27	0518	1856
Changed to Daylight Saving Time		
28	0617	1957
29	0616	1958
30	0614	1959

Journal

April 26. Strawberry Canyon, Alameda Co. inside the pen.
Started using Purina "Pigeon Grains" for feed in pen, also a small quantity of mineralized pigeon grits.
0710 discontinued observations.
0825 Resumed observations in pen. After half an hour entered pen to cut weeds until 0950. Ended observation 1027. Weather now 6/10 CU with some CU congestus, light wind. Sunrise 0521 PST.

April 28. Strawberry Canyon, Alameda Co.
1910 Weather clear, very light wind, sunlight gone from the pen in Behavior Lab, but still on tops of surrounding trees. Sunset 1957 PDST.

April 29. Strawberry Canyon, Alameda Co.
1845 At behavior lab pen, weather clear, moderate to light wind. Sunshine on top of pen only, ground in shadow. 1908 Sunshine has left all parts of the pen, tops of surrounding trees still in sun. Wind has become very light.
1950. Ended observations.

	Sunrise	Sunset	Day Length
April 30	0614	1959	"
May 1	0613	2000	$13^h 47^m$

Journal

April 30. Strawberry Canyon, Alameda Co. 0825 at Behavior Lab. Weather obscured, within stratus cloud, base of cloud estimated 300' below station. Light wind, active fog drip from tall Eucalyptus, visibility less than 100 yards. 0900-0930 Serviced and checked instruments. Clouds gradually cleared to bright sunshine at 1010, but with 5/10 ST remnants in the sky. Cleared weeds during this period, then assisted George Heinsohn in finding and catching ♀ and 1 young bandicoot for removal to another cage. 2nd young could not be found. Completed work in pen at 1125.

May 1. Strawberry Canyon, Alameda Co. 1907 at pen in Behavior Lab, with no evidence of quail in surrounding area; heard a quail call as I entered the hut, then ~~saw~~ a male (Red?) in the pen running toward quail feeding outside. Weather clear with light wind. Sun just leaving the top of the pen and tops of trees still sunlit. Wind light. At 1950 the sun

	Sunrise	Sunset	
May 1	0613	2000	$13^h 47^m$
8	0606	2006	$14^h 00^m$
11	0603	2009	$14^h 06^m$

May. 1. Journal.
just topped Grizzly Peak as the quail went into their roost.

May 2. Strawberry Canyon, Alameda Co.
0607 At pen in Behavior Lab. Weather clear and nearly flat calm. 0705 Sunshine on the slope above access road to west and north of the pen, and at 0707 sun first visible from the hut over Grizzly Peak to the east, with sunlight on ground in the west corner. By 0715 there was sunlight in scattered patches all over the ground in the pen.
I put in the center (E-5) a small amount of dry dust for dust bathing and made a shallow excavation for a water pool in C-6. Ended at 0750.

May 3. Strawberry Canyon, Alameda Co.
0930-1015 Constructed shallow concrete pool about 1½ x 3' in area C-6. Weather ovcst with breaks in heavy CU over ridges of hills calm to light winds, RH 88% by Psychron at 0950. Left at 1030.

Berkeley

Date	Sunrise	Sunset
May 6	0608	2004

McMillan's

May 6	0556	1952

W. J. Francis
1963

Journal.

May 6, 1963. Left Berkeley at 0930 (mileage 38043) for McMillan Ranch; stops at Alameda, Hayward, and in Salinas where I talked with Mr. Twisselman about local quail hunting (very little now), and found that the hunting area opposite Laguna Seca is a deer area. Arrived at McMillan Ranch, San Luis Obispo County, at 1655, mileage 38288. Sighted in .22 rifle, and found it shoots a little high at 25 yards at lowest setting; shot 4 blackbirds with .22 shotshells - estimate maximum range must be less than 20 yards. Worked on Hygrothermograph - installed and adjusted new humidity pen. This instrument is still running more than an hour a day slow. After dismantling and inspecting it appeared that lower bearing of the balance wheel is either missing or completely worn out; on reassembly the clock did not run in normal position.

May 7. 0730 Weather - Psychron 55° - 53°. 89%. Overcast ST with breaks; clouds topping low hills to west and ridge

McMillan's

	Sunrise	Sunset
May 7	0555	1953
8	0554	1954

Journal

May 7. McMillan Ranch, San Luis Obispo County. — remaining longer + more solidly over divide to the east. Brken AC visible as lower clouds cleared. Wind nearly calm.

1330 Weather: overcast AC and AS, Sctd SC; moderate up-canyon (West) wind. Psychron 70°-61°- 59%

#6 B+W Photo - overexposed (B).

#7: Quail preserve, cattle excluded. Vegetation open grassy. 1/40, f.16, focus at 10' distance.

#8: Brush + grass, same exposure, 15'.

#9: Pasture south slope of canyon, 1/40/f.16, 15'. Height of camera 1'.

#10: Facing south across Marion Spring canyon to Pole-line ridge. Sky overcast. 1/50, f.16, range ∞.

#11: Same, but directed to the right to include part of cultivated field. Took vegetation sample in same area as photo # 9.

May 8. McMillan Ranch, San Luis Obispo County. 0615 Weather overcast. Broken ST and SC, higher clouds through breaks. 0845 Drove with Ian McMillan to Homestead in Devil's Den, Kern County, to replenish water for quail and collect specimens. Returned

Journal

May 8. McMillan Ranch, San Luis Obispo County. — about noon via Cholame flats to check a recently dead cow for Condor sign — negative results. At the ranch, collected ~~3~~ 4 more quail specimens, returning at 1515. Weather which had cleared during morning became threatening in early afternoon, with brkn to ovcst CU and SC, showers visible to NW, and strong turbulent wind.

Temp. & humidity checks in small shelter at ranch:

0830 - 58.5°, 54.5°, 78%.
1600 - 62.0°, 55.0°, 64%

B.+W. photos #12 - vegetation near lower water site at homestead, 1/200 at f.16. #13 - vegetation along entrance road to Homestead, 1/200 at f.16.

1600 Weather ovcst with showers visible about 10 miles to west, strong turbulent wind, few drops of rain here.

2030 Talked by Phone with Fred Cook, game manager for Hunter-Liggett Reservation, & arranged to see him Saturday morning at home — 1325 El Camino Real, Atascadero — North of town on old highway. Phone 466-2070.

McMillan's

	Sunrise	Sunset
May 9	0553	1955
10	0552	1956

Journal

May 9. McMillan Ranch, San Luis Obispo Co.

0700 Weather overcast with ST after rain most of the night, rain gage 0.28". Moderate down-canyon (east) wind. Psychron 48.5, 47.0, 90%.
1000 Left ranch for Carmel Valley;
1037 Paso Robles gas stop (38,325). Visited Mr. Fred Cook from 11 to 12, then proceeded via Jolon and Hunter Liggett Military Reservation, Greenfield, Arroyo Seco Road, to Hastings Reservation at 1545 (38,456)
1615 Checked instruments.

From 1900 to 1940 observed quail and possible watering points. Growth of vegetation is so lush that a brood would have difficulty getting to water near the pump, and water is available all along the normally dry stream (result of .15" rain last night, plus generally high rainfall the last 2 months).

May 10. Hastings Reservation, Monterey County.

Weather nearly clear at 0600, with SC increasing rapidly; a dark band moving over the area about 0700, and overcast by 0830. Vegetation very wet with dew, no noticeable wind. Looked for quail around house and

W. J. Francis
1963

Journal

May 10. Hastings Reservation, Monterey County. down to pump in stream bed. 0840 Set out on more extensive tour of the reservation, but cancelled as rain started (moderate, steady) at 0850. Black-chinned Hummingbird and Vaux's Swift seen. Clearing at 1045 to BRKN CU, Bright Sun. 12~~5~~5 started out again to tour possible quail areas, interrupted by brief shower at 1315. Sky overcast, moderate turbulent wind. Intermittent light showers alternating with bright sunshine lasted during walk up Arnold Road above flat where quail were seen and heard. Last shower ended at 1515 as I started down the hill, reaching the main gate of the reservation at 1535. On the road to headquarters, observed a ♀ humming bird building a nest 15' above ground in a live-oak, until 1600. This tree is located 225' down the road from the 2500 marker.

— Excerpts from weather log kept by K. White:

"28 Mch 63 Thur. Rain began at noon 27 Mch as light drizzle, and heavier about 4-5 pm .... Gage .. ran over the one inch glass tube so no reading.

McMillan's

	Sunrise	Sunset
May 11	0551	1957

Berkeley

May 11	0603	2009

Journal.

May 10. Hastings Reservation, Monterey County.
"14 Cal quail flushed from Erodium patch on bulldozed ground south of Bell's house at 3 P.M.
"1 April 1963 Mon. 16 Cal quail on lawn at White house, 8 ♂, 8 ♀, Feeding 9am. Showers began last night alternating with hail. Showers most of day (to-day).
" 2 Apr. 63 8 A.M. ~~Sun.~~ Tues. Quail heard calling in Ceanothus 100-200 feet NE of the shelter.
" 14 Apr. 63 - Sunday. Rain during nite.
" 15 Apr. 63 Mon. Rain during Sun. afternoon + nite.
" 26 Apr. Fri. 8 A.M. Showers all day Thur.
" 27 Apr. Sat 9 AM. Showers on Fri.
End excerpt.

May 11. Hastings Reservation, Monterey County.
0700 Weather cloudy, overcast with CU and SC, intermittent rain last night and this morning. Vegetation dripping wet. Quail traps set last night all partly sprung but two, doors failed to operate properly, or a larger animal sprung them. Left for Berkeley at 0930 arrived home 1347 (38608), overall mileage 565.

Berkeley

	Sunrise	Sunset
May 12	0602	2010
13	0601	2011
14	0600	2011
15	0559	2012

JOURNAL.

May 12. Strawberry Canyon, Alameda Co.
1545 Checked pen at behavior lab. Water pond holding water, dust bath shows much use. Weather clear, moderate wind with very little turbulence. Checked instruments + spread 3 days ration of pigeon grains.
1915 Again at behavior lab weather clear + calm. Ended obs. at 2013.

May 13. Strawberry Canyon, Alameda County.
0815 Weather overcast AS with broken SC, light southerly wind. Observing in behavior lab till 0915.

May 14. Strawberry Canyon, Alameda Co.
1600 - Observing birds in Behavior Lab pen. 1615 Serviced instruments, installed Taylor hygrothermograph, and filled water pool. 1645 Baited and set trap in brush down hill from the lab.

May 15. Strawberry Canyon, Alameda Co.
0830 Checked walk-in trap (no sign of birds near) and set Bailey trap against fence outside of pen. Weather clear, calm, and sunny, vegetation quite wet with dew.

Berkeley

	Sunrise	Sunset
May 16	0558	2013
17	0557	2014
18	0556	2015

Journal.

May 15. Strawberry Canyon, Alameda County.
Checked instruments - wind may not be working. Spread 4 days ration of pigeon grains in the pen.
1910 Checked traps - no sign of birds having been near, and observed birds in pen. Weather clear, practically flat calm.

May 16. Strawberry Canyon Alameda Co.
1300 Checked traps - walk in trap over the hill no sign of birds being near. Bailey trap near pen sprung + empty. Worked in pen weeding, checking instruments, rebuilding water pool and stream, until 1530. Weather clear, hot, light wind.

May 17. Strawberry Canyon, Alameda Co.
0820 checked traps - walk in trap in chaparral - no sign of birds. Bailey trap near pen again sprung + empty. Refilled water hole, left at 0840.

May 18. Strawberry Canyon, Alameda co.
0925 Checked pen at bihavior lab and traps. Weather: overcast ST with lab in the clouds, est. 50-100 above cloud base. Light wind, no turbulence. Vegetation was

Berkeley

	Sunrise	Sunset
May 19	0556	2016
20	0555	2016

W. J. Francis
1963.

Journal.

May 18. Strawberry Canyon, Alameda County. only a little wet, the tops of grass stems with intercepted cloud droplets, the bottoms of stems quite dry.

May 19. Strawberry Canyon, Alameda Co. 1300 Checked walk-in trap - all grain eaten, with a Scrub Jay in the trap + another nearby. Quail calls were heard nearby. Bailey trap near pen in Behavior Lab again sprung + empty. Traps were not reset. Weather clear and sunny, moderate wind with light turbulence. Checked instruments - see weather log.

Set open modified Bailey trap in pen near water hole and baited it. Tare weight of holding net 112 gms.

May 20. Strawberry Canyon, Alameda County. 0830 Weather: thick ST overcast with behavior lab in clouds about 400' above the base. Visibility very low - less than 50 yards; light drizzle occassionally, fog drip from trees - everything pretty wet. Moderate SE wind light turbulence. Checked rain-gage + left at 0840.

Berkeley

		Sunrise	Sunset	Day
May	20	0555	2016	
	21	0554	2017	$14^h 23^m$
	22	0553	2018	

Journal.

May 20, Strawberry Canyon Alameda Co.
1900 Weather almost the same, clouds & wind having persisted all day. Visibility slightly improved, still less than 100 yards at the Behavior Lab pen! 1920. Spread a can of pigeon grain & set modified Bailey traps near water hole.
1948 Turbulence appears to be increased over this morning, with occasional strong gust bending the eucalyptus shrubs over and ruffling the low herbaceous plants.

May 21. Tuesday. Strawberry Canyon, Alameda County. 1715 Weather at Behavior Lab overcast ST with station just at the cloud base - fair horizontal visibility, but tops of trees obscured by cloud. Moderate wind with light to moderate turbulence. Serviced instruments & left at 1748

May 22. Wed. Strawberry Canyon, Alameda County. In Behavior Lab pen at 1918. Weather overcast with breaks, first sunshine in last 3 days breaking through about 1900 as I drove up the hill! Sun was already too low to touch the pen. Wind very light, no turbulence. 2010 Reinstalled

Berkeley

		Sunrise	Sunset	
May	23	0553	2019	
	24	0552	2020	
	25	0552	2021	
	26	0551	2021	
	31	0549	2025	$14^h 36^m$

Journal.

May 22. Strawberry Canyon, Alameda Co. hygrothermograph and set modified Bailey trap inside the pen.

May 23. Strawberry Canyon, Alameda Co. 0830 Weather at Behavior Lab: overcast ST, with lab in the clouds, base about 100' below lab, visibility 50 yards. Light wind, no turbulence. Checked instruments at 0845, left pen at 0900. Left unsprung trap set.

1950 Weather at Behavior Lab still overcast, with thick ST, base several hundred feet below the station, visibility less than ~~50~~ 50 yards in the pen.

May 24, Fri. Left Berkeley 0926, mileage 38,970. King City 1214, (39,124) to 1228. Thence to McMillan Ranch, serviced weather instruments at 1500, and drove via Gillis Canyon Road and Kern County Route 101K to Homestead Project in Devil's Den area of Kern County, arriving at 1622, mileage 39,235.

Observed birds from post on hillside 100 feet from upper water drum, from about 1700 until 1804. Many

Journal.

May 24. Devils Den, Kern County, Calif. Mourning Doves and a few Lark Sparrows came to the area, some drinking. See species account for Calif. Quail. Wind in this area has been strong throughout the period, and in most parts of the area, very strong and turbulent, estimated to average 25 knots with gusts to 40, and not diminishing at sundown. Doves were noted to walk toward water sideways so that they faced the wind as they walked.

May 25. Devil's Den, Kern County. 0530 Weather cloudy with broken AC and few ST patches, wind continuing but less strong, averaging an estimated 20 knots out of shelter with gusts to 30, and cool. Observing birds from upper water drum, across ravine by lower drum, up canyon by the artificial roost, then over the ridge and circled back around ridge crests. Saw a single Chukar at 0608 on a rocky ridge in the ravine above the artificial shelter. On return trip saw two ravens driving a golden

McMillan Ranch

	Sunrise	Sunset.
May 25	0543	2012
26	0541	2012

Journal.

May 25. Devil's Den, Kern County
eagle out of the canyon west of
quail canyon. ST appeared to
be increasing to west at 0700.
Returned to McMillan Ranch via
Shandon, arriving 0830, mileage 39,272

May 25. McMillan Ranch, San Luis Obispo Co.
Observing near Marion Spring 1100 to 1220
and at old granary 1430 to 1600.
Weather clearing to sctd CU, fresh
wind est. at 15 knots, moderate
turbulence, gusts often ruffling
ground vegetation strongly. Took
movies (1-7 feet) at old granary
from car.
1735 to 1845 observing on ridge
overlooking Marion Spring.

May 26. McMillan Ranch, San Luis Obispo Co.
I spent the night in the station
wagon on the ridge overlooking Marion
Spring. In the early morning ST
cloud enveloped the hill, but by
0630 when I first heard quail
calls, clouds had lifted to about
300 feet above this level, although
still covering taller surrounding
hills. Pyschon check on the ground
51.5° - 50° - 91% humidity, at 0725.

	Berkeley	
	Sunrise	Sunset
May 27	0550	2022

Journal.

May 26. McMillan Ranch, San Luis Obispo Co.
This afternoon built a blind above Maria Spring on the north slope of the hill, for future observation, and surrounded with 2 strands of barbed wire to keep cattle out. Left the ranch at 1710, mileage 39,279, and reached home in Berkeley at 2213, mileage 39,515. Total trip miles - 545 miles.

May 27. Strawberry Canyon, Alameda Co.
1920 Weather overcast with recently formed ST over the hills, base less than 100 feet above the station. Very light wind. Cloud thickened rapidly, obscuring tops of trees near pen by 1930. At 1936 cloud began blowing through the pen to ground level. At 2015 checked rain gage (0.01") and reset & baited Bailey traps, then discontinued observations. Also checked area of commotion in D-1 & found fresh gopher workings

Berkeley

	Sunrise	Sunset	Day L.
May 28	0550	2023	
May 31	0549	2025	14 h 36 m
June 1	0549	2025	14 h 36 m
June 3	0548	2026	

Journal.

May 28, Tuesday. Strawberry Canyon, Alameda County, Calif. 0830 Weather overcast with thick ST, base about 200 feet above station at Behavior Lab., moderate SE wind with moderate turbulence, visibility locally good. Serviced and checked instruments at 0840-0850. Flushed 2 ♂♂ and 1 ♀ while chopping weeds in A-10; up to 0930 no other birds seen in the pen, these 3 remained hidden until I came very close.

May 28. Strawberry Canyon, Alameda County, 1913 Weather at Behavior Lab: station within clouds - ST overcast over the hills with base about 50 feet below station, light wind with little or no turbulence. Visibility about 100 yards. Both wind & turbulence increasing to moderate from 1930 to 2000.

June 3. Strawberry Canyon, Alameda County. At Behavior Lab. pen near sunset; arrived when sunlight was clear of wire enclosure but still on tops of surrounding trees. Weather clear, warm, & sunny. Moderate wind in surrounding area but nearby calm

Berkeley

	Sunrise	Sunset
June 3	0548	2026
4	0548	2027
5	0548	2027
6	0548	2028

Journal.

June 3. Strawberry Canyon, Alameda County. in the enclosure. Water pool was empty. Filled pool and ran water down small ditch from water faucet. Set modified trap.

June 4. Strawberry Canyon, Alameda County. at the behavior lab at 0810, weather clear, sunny, + calm, good visibility. Serviced instruments + ran water to pool, observing from 0840 to 0930.
1920 Evening observation at the Behavior Lab. Weather partly cloudy with 6/10 AC, sun obscured by clouds in the west, light wind and turbulence. Turned off running water, left trap set, + left at 2015.

June 5. Strawberry Canyon, Alameda County. 0830 Weather clear with 1/10 SC over windward slopes and few AC, light to moderate westerly wind, little or no turbulence. Cut weeds and searched for nests until 0925; left trap set near water hole, and left a trickle of water running.

June 6. Strawberry Canyon, Alameda County. 1940 Weather clear, very light wind. Sun well above the fog setting, only

Berkeley

		Sunrise	Sunset	Day L.
June	6	0548	2028	
	7	0547	2028	
	10	0547	2030	
	11	0547	2030	$14^h\ 43^m$

W. J. Francis
1963

Journal.

June 6. Strawberry Canyon, Alameda Co. on extreme tops of surrounding taller trees.

June 7. Strawberry Canyon, Alameda County. 1510 Weather locally overcast SC with breaks over the hills, base about 300 feet above the Behavior Lab. Light wind with moderate turbulence. 1620 Wind & turbulence somewhat increased, clouds lowered to estimated 100 feet above station.

June 10. Strawberry Canyon, Alameda County. 0853 Weather at Behavior Lab clear, light easterly wind, no turbulence. Observed, cut weeds, & checked instruments to 0940. Spread one can of pigeon grains.

June 11. Strawberry Canyon, Alameda County. 0810 Weather at Behavior Lab overcast ST, base less than 100' above station, fair visibility, light wind, no turbulence. Serviced instruments and filled water pool. Left at 0857.

Berkeley
Sunrise Sunset
June 12 0547 2031

W. J. Francis
1963

Journal.

June 12, Strawberry Canyon, Alameda Co.
0650 Weather: sky obscured with ST covering the hills, base estimated 400' below Behavior lab. station. Very light wind, no turbulence, visibility less than 50 yards; active fog drip from Eucalyptus trees in the vicinity. By 0725 the sky was appreciably lighter, and visibility up to 100 yards. 0800 Cloud base lifted from the ground, with visibility locally unrestricted, about 1/4 mile in surrounding area. ~~0810 Red ? now across clearing from D-8 to E-2.~~ 0820 clouds thicken and lower with somewhat more wind and light turbulence.

1325. Weather fair, about 5/10 high SC, moderate wind with light turbulence.

1925 Overcast ST along hills, with base variable less than 100' above station. Wind very light, no turbulence, visibility locally unrestricted. 1935 Lower clouds began blowing through the pen. Observed in pen until 2005.

Berkeley

	Sunrise	Sunset
June 13	0547	2031
16	0547	2032
17	0547	2033

Journal.

June 13. Thurs. Strawberry Canyon, Alameda County. 0840 Weather overcast ST, cloud base about 100' above station; light wind, little or no turbulence. Vegetation wet.

June 16. Sunday. Strawberry Canyon, Alameda County. 1925 Weather clear with few thin clouds, but heavy ST over bay + coastal mountains. Calm + warm. Vegetation in the behavior lab pen is beginning to dry, especially bur clover which is quite dried where past rate, and almost so in the rest plants. Wild oats are also quite dry, other grasses still green, and Melilotus at the peak of its growth

June 17. Strawberry Canyon, Alameda Co. 0857 Weather at Behavior Lab clear, flat calm, quite warm.
1910 Weather at Behavior Lab: ST covering the hills from the west, with this station just about on the edge, clouds intermittent in the pen, with visibility down to 50 yards at such times. By 1940, the cloud

Berkeley

	Sunrise	Sunset	Day L.
June 17	0547	2033	
18	0547	2033	
21	0547	2034	$14^h \cdot 47^m$

Journal.

June 17. Strawberry Canyon, Alameda Co.
layer had settled in closely, with visibility remaining less than 50 yards.

June 18. Strawberry Canyon, Alameda Co.
0747. Between hab. in thick ST with base about 600 feet below the station. Very active fog drip from Eucalyptus, taller weeds very wet with intercepted fog drops, and netting on top of the pen covered with water drops. When a ♂ quail walked across this, a shower of water drops fell as he shook the netting. Visibility 30-40 yards, light wind. Ground surface + lower vegetation nearly dry, except where drip has occurred. 0808 Entered pen to check A-3 nest and to service instruments.

1500 Weather: clouds lifted to variable base 50-200 feet above the station, and thinned so that the disk of the sun is intermittently visible. Light to moderate wind. Observed until 1700.

McMillan
Sunrise Summit
June 21 0535 2022

Journal

June 19. Strawberry Canyon, Alameda Co.
1310 Weather clear and sunny, moderate wind and turbulence producing appreciable but not violent movement of vegetation in the pen.
1435. A number of gunshots, heavier than .22 caliber, have been heard to the west in the last few minutes.
1540 Filled water pool, left trickle running, and threw out more pigeon grains.

June 20. Left home at Berkeley at 1050, mileage 41,249, and drove to McMillan Ranch, San Luis Obispo County, at 1800, mileage 41,489, delayed about 2 hours in Soledad for repairs to car starting motor. Set up camp in "Trees" area, to the north of the ridge beyond the ranch house. Grasses and most weeds are quite dry and brown now, although shrubby perennials are retaining their green color.

June 21. McMillan Ranch, San Luis Obispo County, Weather at 0650 clear with moderate to fresh

June 22 0535 2022

Journal.

June 21. McMillan Ranch, San Luis Obispo County.

up-valley wind, bank of stratus in valley to the west. This stratus spread giving local overcast which again broke about 0800.

1000. I completed and repaired the blind at Marion Spring and observed there till 1237.

1452 Resumed station in the blind. Observed until 1917. Cattle watering at the trough were an effective deterrent to other birds coming in even though some water was available beyond the fence; some mourning doves, finches, and a blackbird got water with cattle present, but by and large they monopolized the water supply.

June 22. McMillan Ranch, San Luis Obispo Co. 0825 Took station in blind at Marion Spring. Weather clear, light wind, rather cool out of the sun. In addition to quail, Mourning Doves, House Finches, and Lark Sparrows were common here; also noted Shrikes, Green-backed Goldfinch, Brown Towhee, and California Thrasher. Observed here till 1138.

Journal

June 22. McMillan Ranch, San Luis Obispo County. 1544 Wind increased to moderate or strong since mid-morning. I took station at the window in the ranch house to check birds coming to water there. Following species observed: Brewer's Blackbird, California Quail, Bullock Oriole, Brown-headed Cowbird, English Sparrow, Lark Sparrow, House Finch, Green-backed Goldfinch. Ended observations at 1736.

I returned to the ranch house and observed birds going to roost 2000 to 2045.

The wind was quite strong the late afternoon and evening but died down somewhat after sunset. With the sun gone the weather is decidedly cool for June (min. temp. reading Thursday was 48°, and it has not warmed up.)

The electric lantern battery is about dead – kerosene lantern is working fine but needs filling before another trip.

On my return to camp a

June 23 0536 2022

Journal.

June 22. McMillan Ranch, San Luis Obispo Co.
large owl circled over me and dipped low as if to survey my food value, then moved off to the low hills to water where I saw another hunting. By their size these must be Great Horned Owls, although I could not make out shape or markings.

June 23. McMillan Ranch, San Luis Obispo Co.
About 0515 I stepped outside the tent; the light was sufficient to see fairly well, it being half an hour till sunrise. Two owls, same as seen last night, flew from large tree across the gully and circled low over me, very obviously inspecting me. They were seen to be Barn Owls - the large wing spread fooled me last night. Up at 0630 to go to the blind. Weather clear and cool, wind still moderate, stratus bank over the valley to the west. Heavy dew on tent and car, and on tops of grass stems. However, when walking down the pasture to reach the blind at Marina Spring, there was no dew at all on vegetation or ground.

Journal

June 23. McMillan Ranch, San Luis Obispo County. Observed from the blind starting 0700. The water situation is poor since the trough has not yet filled since cattle last watered and there is no overflow; only a very few spots where there is water in deep cattle hoofprints. 0723 Rapidly spreading stratus has produced an overcast except for a line of blue sky to the east, and sun is now obscured. 0740 The overcast is now complete, no blue sky, nor any lightness to indicate the sun's position. 0812 The stratus began to show breaks with the sun's disk visible. At 0840, just after leaving the blind, the stratus broke into scattered patches, and bright sun covered the area with the wind a little lighter than earlier. Broke camp, completing at 1025. (Mileage 41525)

Paso Robles - lunch and tire repair. Left at 1335, mileage 41559. Reached Hastings Reservation about 1600, mileage 41654.

June 23. Hastings Natural History Reservation, Monterey County. Observing

Hastings

	Sunrise	Sunset
June 21	0544	2031
23	0545	2031

Journal.

June 23. Hastings Reservation, Monterey County. from car parked 100 feet from pump with seepage flow, to determine watering habits of local quail. A flock of about 20 Lawrence Goldfinches are feeding in the field directly in front of me; left at 1740.

At 1842 parked close to pump where I can see clearing around the water clearly. At 1912, with shadows covering the area and no signs at all of quail, I left the area.

Excerpts from K. White Weather Log:
"27 May, Mon. ... Heavy fog all week at about 1000 to 4000 feet, sometimes higher, more often lower. Many (25+) pairs of Cal. quail seen on or alongside roads this past week, which would indicate there are not nesting yet — ... Very little sun all week, only occasionally, through thin hole in fog.
"5 June 1963, .03" fog drip in rain gage." End excerpt.

June 24 0545 2031

Berkeley

June 25 0548 2034

Journal.

June 24. Hastings Reservation, Monterey County.
0800 Weather clear and sunny, very light wind. Vegetation is dry, especially the grasses, but many forbs are green and some still flowering - noted particularly Erodium in wheel tracks of dirt road to the pump. This contrasts with San Luis Obispo County where all vegetation (except local moist spots) is completely dried and some even burned black.
0830 Serviced weather instruments.
0945 Started tour of the reservation to look & listen for any signs of quail. Reports of John Davis, Keith White, and Jim Bell are that while adult pairs still are frequently seen, there have been no young seen and no evidence of successful nesting.
1337 Left Hastings for Berkeley, (mileage 41656) and arrived home at 1645 (mileage 41799). Total trip miles 550.

June 25. Strawberry Canyon, Alameda County.
0855 Behavior hab. pair; weather clear and sunny, above the inversion which is visible as a haze horizon over the bay and coast. No wind

June 26 0549 2035

Journal

June 25. Strawberry Canyon, Alameda Co.
and quite warm. Water pool is overflowing, so cut supply down to a still smaller trickle. 0900 Serviced instruments.

1530 Returned to Behavior Lab. for observations, until 1710.

June 26. Strawberry Canyon, Alameda County.
0930 Weather in Behavior Lab. clear and sunny, light wind; stratus over the hills cleared only in last few minutes. Observed from the observation hut until about 1000, then searched pen & cleared a few weeds until 1050.

1535 Returned to pen. Replenished dust bath with a bucket of fine sand. Weather - scattered patches of SC, bank of ST moving in from SW, moderate wind with moderate turbulence, gusts moving shrubs and taller grasses markedly. 1615. Sky now overcast ST, some breaks permit brief sunshine.

June	27	0549	2035
	28	0549	2035

Journal.

June 27. Strawberry Canyon, Alameda Co.
~~[illegible]~~ 1915 Weather has been overcast nearly all day, except for a period of partial clearing in late afternoon. In the behavior lab, sky now entirely overcast, base estimated about 500' above station, moderate wind with moderate turbulence (more turbulence noted on the western exposure of the ridge on the way up here).

June 28. Strawberry Canyon, Alameda County.
At Behavior Lab. pen at 0730. Weather clear, light wind moderately turbulent. Line of St clouds visible over coastal hills to the SW, and few remnants of Sc over Oakland hills to the south. Only patchy sunshine now covering about 1/4 of the ground area in the pen; light dew on grass & low weeds.
0745 Set modified trap in C-6.
1115. Wind has become moderate to fresh, still moderately turbulent.
1200.1240 Chased quail chicks which had escaped from pen and examined fence. After lunch procured 1/4" mesh hardware cloth to close gaps around the

June	28	0549	2035	
	29	0550	2035	
	30	0550	2035	
July	1	0551	2035	14h ~~44~~m

June 28. Journal.
Strawberry Canyon, Alameda County.
gate in A-1, and installed to make the pen now, I think, chick-proof. Resumed observations from the hut at 1610, until 1724.

June 29. Strawberry Canyon, Alameda County.
Weather clear and warm with light winds all day today. In Behavior Lab. pen 1730 to 1755.

June 30. Strawberry Canyon, Alameda County.
At Behavior Lab. pen 1825. Weather clear and sunny, light wind with moderate turbulence, as it has been all day. At 1912 the ground surface inside the pen was completely shaded from the sun by hills to the west. At 1930 entire top of pen in shade, surrounding trees still sunlit. Ended obs. at 1945.

July 1. Strawberry Canyon, Alameda County.
0925 at Behavior Lab. pen. Weather overcast ST, just beginning to break to the west of this area, but with the top of Grizzly Peak obscured in thick clouds. Light wind with moderate turbulence. No dew or fog-drip.

[illegible]

Journal.

July 1. Strawberry Canyon, Alameda County.
1002 Full sun on the pen for a moment as clouds are beginning to break, wind has averaged moderate last 15 minutes. Another ♂ has been visible from time to time in the south portion of the pen, with a ♂ outside on top of the pen in the same general area. 1011 Two ♂♂ at once visible in A-6 and A-9 - probably one is the Red bachelor. 1013 A pair visible in A-10 as Red ♂ moved up through A-5. 1016 Green family in A-5 - still unable to get a count. 1026. Fair count of 12 chicks as Black ♀ and chicks foraged in A-4, Green ♂ perched on weeds or in clearing in alert posture. 1031 Accurate count of 13 chicks as Green family feeding in clearing. 1052 Yellow ♀ at water hole, then went into weed patch in C-8, as a ♂ entered same patch from other side. 1056 This pair ran down into C-10 and out of sight. 1125 Serviced instruments. 1140 Clouds completely broken, with only scattered remnants of Sc, wind and turbulence somewhat greater, with much wind movement of vegetation in pen-

Journal.

July 1. Strawberry Canyon, Alameda County. Observed birds from hut until 1231/2.

July 2. Strawberry Canyon, Alameda County. 0850 at Behavior Lab. pen. Weather 3/10 Sc remaining from early stratus bank over the hills; light wind with moderate turbulence. Lower 1/4 of the pen still in shade of surrounding trees.

July 3. Strawberry Canyon, Alameda County. 1508 Observing in Behavior Lab pen; weather clear and sunny, moderate wind with moderate to strong turbulence; exceptional visibility. Ended observations at 1700. Spread a can of "Pigeon Grains" and filled water-hole.

July 4. Strawberry Canyon, Alameda Co. 1100. Weather at Behavior Lab. overcast with few breaks, nearly calm, cloud base more than 500' above station, good visibility. 1125 Wind has increased to light-moderate, with moderate turbulence. Left at 1204.

Journal.

July 5. Strawberry Canyon, Alameda County. 1915 At Behavior Lab. pen. Weather: stratus gradually advancing up the westward slopes of the Berkeley Hills, some blue sky visible to the east. The pen is out of the sunshine but not fogged in at this time. Wind light with slight turbulence. 1930 Overcast now general, less than 100' above the station, with patchy fog down to the ground in the surrounding area. 1940 Clouds generally lowered to ground level, less than half the time clearing. Visibility generally under 100 yards. 1954 Clouds raising, thinning and clearing, much blue sky now visible and sunshine on surrounding trees, mostly good visibility. 1959. Red ♂ feeding in B-9, then walked down into weeds. 2000 Sky 7/10 clear, stratus bank only in the west ridge. At 2020 Thick stratus again covered the area, coming down to ground level with reduced visibility at 2026. Ended obs. at 2030.

Journal.

July 6. Strawberry Canyon, Alameda Co. 1600 Weather: Heavy SC and CU over coast and hills, clear over the bay. at the Behavior Lab, 8 to 9 tenths sky cover, est. base 1000' above the station. Light to moderate wind with moderate turbulence, good visibility. 1655. Entered pen to cut weeds for 15 minutes, checked instruments, filled water hole, and spread 1 can of Pigeon Grains. Leaving at 1715, clouds were nearly solid overcast and lowered to cover to top of Grizzly Peak, and sun completely obscured to the west.

July 7. Serviced instruments in Behavior Lab. pen at 0900.

July 14. Serviced instruments in Behavior Lab. pen at 1820. Weather clear and calm. Water had dried up in pool, but was still available as a trickle from the hose end and ~~small~~ puddles in upper part of channel. Filled water hole, and scattered a can of hen chow.

Journal.

July 15. Strawberry Canyon, Alameda County. at Behavior Lab. at 0920. Weather overcast, with breaks increasing as morning stratus clears. Strong southerly wind at cloud level, moderate to light at surface, with slight turbulence. 0940 Sky cover reduced to 5/10, surface turbulence increased. 0955 Sky now completely clear. Observed quail in pen until 1115.

July 16. Strawberry Canyon, Alameda County. In Behavior Lab. pen at 1510 (estimated time, due to watch stoppage). Weather clear, moderate wind with light turbulence. Observed penned birds until 1540, then baited and set modified Baily trap near the water hole.
— 1745 Checked watch - 25 min. slow. Add 25 minutes to all times this afternoon.
— 1920 Again observing at Behavior Lab. pen. Weather: 2/10 patches of SC, wind light with slight turbulence. Sun is above the entire pen but shining on surrounding trees.

Journal.

July 17. Strawberry Canyon, Alameda County. At Behavior Lab pen at 0850. Weather overcast ST beginning to break, light wind with no turbulence. Light dew on ground vegetation. At 0915 breaks in cloud became general and sunshine covered the ground in the pen. 0930 Sky clear except for 2/10 very thin scattered remnants of ST cloud. 0945 Ended obs.

1355. At Behavior Lab. pen; weather clear, light wind with slight turbulence. 1413 Entered pen + set modified Bailey trap (which had been sprung by a junco). 1615 Ended observations, sprung the trap, and filled the water-hole.

July 19. Strawberry Canyon, Alameda County. 0950 At Behavior Lab. pen, weather: SC clouds obscuring the sky with base est. 300' below the station, visibility 75 yards, active fog drip from eucalyptus trees, and water drops on the wire top of the pen. Wind moderate with moderate turbulence here, strong in more exposed westerly situations. 1052 Ended obs. with weather about the same sky lighter and clouds intermittently lifting from the ground.

Journal

July 19, Strawberry Canyon Alameda Co. 1900. At Behavior Lab pen, weather clear (ST lifted over hills generally about 1300 today) very light wind with no perceptible turbulence. Refilled water-hole. 1909. Entire ground surface in shade, sun still on top and sides of enclosure. 1930 Sun clear of entire enclosure, only visible on surrounding trees. 2008. Sun is now off all the surrounding trees. 2025 Sky is gray, no sunlight anywhere in sight, 2026 Orange ♂ perched on top of instrument shelter. 2030 Orange flew to E-7, then ♀ with two chicks came to base of E-9 roost. Two squill calls heard after a bird flew into the roost. 2033 ♀ and two large chicks flew into E-9 roost, as ϕ3 ♂ ran across clearing, then down NE fence. 0836 ϕ3 ♂ dusted and ran to B-7 eucalyptus.

July 20. Strawberry Canyon, Alameda Co. At Behavior Lab. pen 1237, partial eclipse of the sun just scheduled to begin. Light-meter reading

W. J. Francis
1963

Journal.

July 20. Strawberry Canyon, Alameda Co. for ASA 160 (Plus-X Pan Kodak Film), by Argus meter: f.13 at 1/100 sec. 1245 B.&W. photo #19 at the above exposure, looking into center of the pen; through opened window. Weather clear, light to moderate wind with moderate turbulence. 1313. Examined image of eclipse as projected by binoculars: over-lap estimated at 1/5 the sun's diameter, which would reduce the light by less than 4%. ~~1320~~ 1323 Light meter reading (same conditions) about f.11.5 at 1/100 sec. ~~1326~~ 1333. Shadow on eclipse image cuts off about 1/4 of the sun's circumference. 1344. Little apparent change in eclipse image; about 1/4 of circumference of sun cut off by shadow, a little less than 1/3 its diameter, with the curvature of the moon's shadow definitely greater than the curvature of the sun's disc. Light reduction on this basis would be less than 10% maximum. 1347: With eclipse at its maximum took photo #20, same settings as

Journal.

July 20. Strawberry Canyon, Alameda Co. the previous photo at 1245. Light meter reading f.11 at 1/100 sec. 1402. Took movie shot of Orange family at water hole, 38 mm Nikkor lens 50', between f5.6 and f.8 with Kodachrome II film. 1420 Made instrument check and ended obs.

July 21. Strawberry Canyon, Alameda Co. 1240. Serviced instruments in Behavior Lab. pen, left trickle of water running, and scattered 1 can of pigeon grains plus 1 can of hen chow.
—1400 Left home by car for McMillan Ranch, mileage 42787, and arrived at 1845, mileage 43026.

July 22. McMillan Ranch, San Luis Obispo County, Calif. 0800 Proceeded to blind near Marian Spring, readjusted loose coverings and rigged awning. Began observations at 0844, ended 1040. Lark Sparrow, Brown Towhee, California Thrasher, House Finch, Mourning Dove, and

Journal.

July 22. McMillan Ranch, San Luis Obispo Co.
an unidentified immature or ♀ icterid also drinking at this water source.

1510 Returned to blind. Scrub Jay, Meadowlark, Roadrunner came to water here, in addition to species noted earlier. Jays in particular concentrated their feeding on the cattle droppings. Ended observations at 1800.

July 23. McMillan Ranch, San Luis Obispo Co.
0745 Took station in the blind at Marion Spring. Five jackrabbits around the water-trough, at 0817 a young spike buck mule-deer with 6" antlers in velvet crossed alone the water trough, then at 0825 came down and drank at the overflow across the fence. Ended obs. at 0910.

Resumed observations at 1100, relieving Ginger, who was in the process of driving off the cattle which had been drinking there. 1110 Cattle returned for another drink, then drifted slowly up the hill, clear of the water trough area by 1130.

1345 Left McMillan Ranch, at mileage 43031, for Hunter Liggett Military Reservation. After return-

Journal.

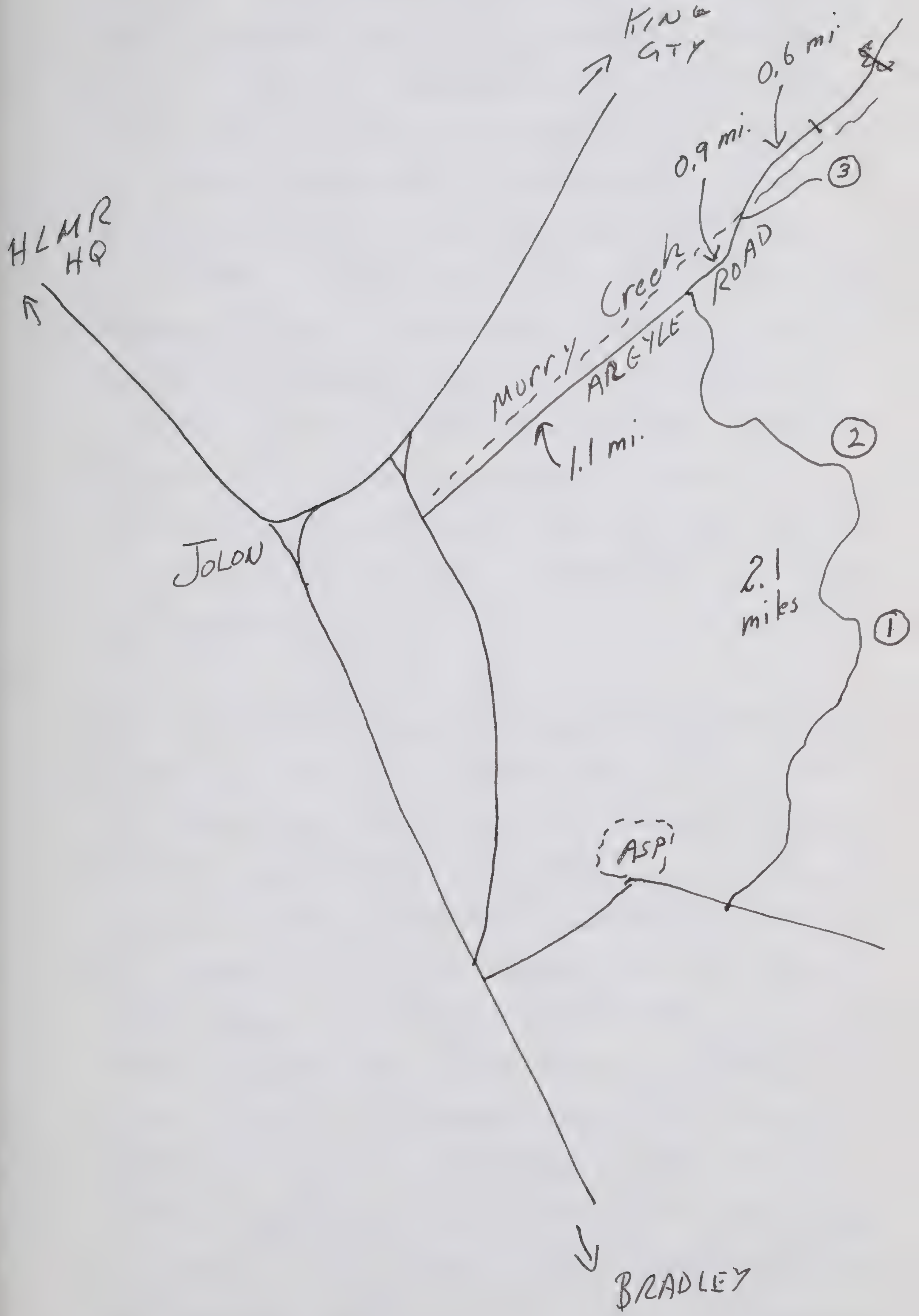
July 23. H.L.M.R., Monterey County, Calif. ing to pick up forgotten clothing (at a cost of 63 miles and nearly 2 hours, arrived at Hunter Liggett about 1730, mileage 43173. Set up camp in back of San Antonio Mission.

July 24. Hunter-Liggett Military Reservation, Monterey County. At 0830, met Mr. Fred Cook, Game Manager, at HLMR headquarters. He introduced me to Lt. Col. Peckham, Deputy Post Commander, then took us on a tour of the quail areas of the reservation until noon.

From 1810 to 2015 made a road census of quail in the above area, covering 8.3 miles along dirt roads from Jolon ASP to Argyle Road, to old Jolon Store, and returned same route except for upper Argyle Road.

July 25. H.L.M.R., Monterey County. At 8:40 a.m. drove over same roads again, one way only, with nearly negative results. From 1015 to 1125 repeated the drive going further up Argyle Road;

Hunter Liggett



W. J. Francis
1963

Journal.

July 25, HLMR, Monterey County. and covered a total road distance of 9.5 miles, besides 15 minutes at the artesian well (#1) and a few minutes observing the guzzler (#3) at a distance.

1400. Left HLMR for Hastings Reservation arriving there about 1600. (Mileage 43295 - 43361). From about 1900 to 2030, walked about the headquarters area, as far as the pump and up to the head of Quail Hollow, looking for signs of quail.

July 26. Hastings Reservation, Monterey County, Calif. 0640 to 0740 tour of headquarters area, pump, Quail Hollow, and brushy hillside - no results. 0915 Re-fastened probe of Foxboro at grass level to avoid direct rays of low sun. Previous extremes in morning and afternoon have been affected this way, and allowance must be made. 0940 to 1220, walked down to entrance gate, up the Greenfield road half a mile then down the creek bed and returned, looking for signs of quail watering. Very many deer tracks all

W. J. Francis
1963.

Journal.

July 26. Hastings Reservation, Monterey County. along the stream, plus raccoon and unidentified mammals; but no sign of quail, either tracks, calls, or sighting, anywhere along the flowing stream.

— Excerpts from K. White's weather log: "1 July, 1963. Wind pen not functioning." No other comments except time + reading checks.

July 27. Hastings Reservation, Monterey County. 0625. Took position on White porch near quail roosting tree, observed quail feeding as they left roost. 0700 Sunlight on the top of opposite (south facing) ridge. 0725 left post and made short tour of headquarters area before breakfast. 0910 Took station on bank of stream just above open water near barn, and rigged burlap screen as a partial blind. Observed until 1015.

1045 Started out on reconnoitering tour of north facing grassy + wooded slope, as far as watering trough on the hill above the entrance road. 1120 Posted myself on slope overlooking watering trough, until 1151; only birds seen were 3 Lesser Goldfinches and 3 Juncos.

Journal.

July 27. Hastings Reservation, Monterey County.

1151. Scraped a depression in the earth under the overflow drip from the water trough to make a small pool, then returned via road, back at the house about 1210.

1705 Observing in the car near the bridge just outside the reservation gate, until 1757. Brushed tracks clear to check tomorrow's movements.

1900 Resumed station by the bridge, ended obs. at 1952.

July 28. Left Hastings Reservation for Berkeley at 0940, mileage 433 63, and arrived Berkeley about 1300, mileage 435 07. Total mileage on this trip 720.

Strawberry Canyon, Alameda Co.

1400. Weather overcast with ST over the hills, base just below station level. Replenished dust bath, filled water hole, serviced instruments, and spread 1 can of Hen Chow and 1 can of Pigeon Grains. Intermittent sunshine through clouds during this period to 1425, clouds clearing. Wind moderate with moderate turbulence.

	Sunrise	Sunset	Day Length
~~July 1~~	~~0549~~	~~2025~~	~~14-36~~
~~July 11~~	~~0547~~	~~2030~~	~~14-~~
July 1	0551	2035	14-44
11	0556	2032	14-36
21	0604	2027	14-23
31	0612	2018	14-06

Summary of Ginger's Observations at McMillan Ranch:

July 22, 0830 - 1130, Ranch House.

MF + 8 chicks - downy - 14 drinks a chick, M.5 and F.11.

MF + 7 chicks - almost grown.

MF + 3 almost adult.

MF + 1, MF.

MFF + 7 young, 1 smaller

MF + 10 young. MF.

MF + 7. MF. MF + 2 almost grown - M pecks young away.

MF + 2. MF. M + 1. M.

MF + MF + 21. M + 5. MF + 1.

MF + 2. MF + 5. M.

Imm. chased by M & F.

MF + 4. F + Imm. F + 2. M.

F + 2. F. F. MF. MF.

9:15. MF + 5. MF. MF + 6. M + 6 (M driving away everyone but his chicks. M fought another male.)

9:30. MF + 3. Imm. chased by all.

MF + 7. MF. MF + 4. M. MF + 6

MF + 2. M. M + 4. Imm. M.

9:35 MF + 2 tiny. MF. M. MF + 2 tiny.

MF. MF + Imm.

9:45 M + 2 Imm. MF. M. M + 12.

M. 3 Imm. Imm. - 5. Imm. - 4.

10:15 MF. MF + 2 tiny chicks. Again?

11:20 Fight between coveys in bush - 1 driven away before drinking.

M+2. M. Imm.= 1. Imm.- 8 in covey, - one young sounding alarms as parent.

Totals: 26 pairs with chicks
12 adult pairs
3 single ♀
12 single ♂
23 Immatures alone
7 ♂ with chicks
3 ♀ with chicks
15 chicks < 3 weeks.
7 3/4 grown.
13 nearly adult
126 other chicks

Plus 1 pair, 1 ♂, 1 ♀, and 12 half grown chicks, for totals of –
64 adults with 196 young.
41 adults without young.

July 22 - 1540-1700. Ranch House.

3.55 MF + 7 (3 weeks). MF.
4:00 M.F. MFF + 11 Imm.
4:25 M + 3 Imm. M + 4 Imm.
5:20 M + 8 Imm. 1 Imm.
5:30 MFMF + 15. MF + 3 Imm.
MF. M + 3 Imm.
5:35 M + 9 (3 wks). M. 4 Imm.
4M, 1F, + 2 (3 wks). 2 M.
5:40 MF. M. MF + M + Im. M.
MF. MF. MF. M + M.
5:50 MF + MF
6:10 MMF.

Summary:
5 pairs with chicks
11 adult pairs
2 single ♀
9 single ♂
5 single Imm.
7 ♂ with chicks.
18 chicks < 3 weeks
48 other chicks.
Total: 17 adults / 71 young.
33 adults, no young.

Also:
8:13 5 ♂ 3 ♀ 12 (5 wks)
8:17 MF · MF · ♂ + 2 (5 wks)
8:20 ♀.

Tues. July 23.
0745 - 0925 Ranch House.

7:45 MF + 3 downies
8:00 MF + 2 Imm. MF.
M + Imm.
8:06 MF + 3 downies.
:25 " " . MF.
8:40 MF + 6 (2 wks). MF.
:45 " " .
FM + 2 Imm. + 2 (3 wks).
:50 MF + 9 (4 wks)
M + 3 Imm. MF + 6 (3 wks)
MF + 1 downy
MF + 11 downy
9:00 MM + 2 Imm.
MF + 12 (3 wks)
9:10 MF + 8 (3 wks). M
MF + 7 (< 3 weeks). M.
MMM + 7 Imm.
MF + 2 (2 wks).
M. M + 1 Imm. M + 12 (4 wks).
9:25 F + 5.

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July 29. Strawberry Canyon, Alameda Co.

1210 at Behavior Lab. pen. Weather clear except for remnants of recently broken up ST over the hills. Light to moderate wind, moderate turbulence. Left pen at 1245.

1855 Returned to observation hut at Behavior Lab. Weather clear locally, ST commencing to cover hills to north and west. Light wind with no turbulence. Most of ground surface in the pen is in shade, top of enclosure in sunshine. 1925 Entire enclosure now in shade. 2000 Surrounding trees in shade. 2020 (Sunset by the clock) All surroundings including top of Grizzly Peak in shadow, local light much decreased. Ended observations at 2035. On the way home noted top of stratus about 300 feet below the level of the Behavior station.

July 31. Strawberry Canyon Alameda Co.

1015 at Behavior Lab. pen. Weather: station within ST cloud, base about 200' below, tops not very high as indicated by relatively bright light through the clouds. Wind very light.

Date	Rise	Set	
Aug. 1	0613	2017	14h 04m.
2	0613	2017	
5.	0616	2013	
11.	0621	2007	13h 46m

Journal.

July 31. Strawberry Canyon, Alameda County.
1020 Set and baited modified Bailey trap in the center of the pen. 1100 First bright sunshine as clouds beginning to clear; wind somewhat strong with slight turbulence. 1150 Discontinued observations after a brief search in the pen. Most of the tall grass, as well as all Medicago and Vicia has dried up and mostly fallen to ground, leaving the weed patches more open, but with 5 or 6 species of Compositae now blooming; these are tall + vigorous, but much less crowded than previous weeds.

Aug. 2, Strawberry Canyon, Alameda Co.
0610 at Behavior Lab pen, weather: in the middle of morning ST cloud, base estimated 300' below the station, visibility about 75 yards. Fresh wind with moderate turbulence; active fog drip from eucalyptus, and wire mesh on top of the pen. 0750 Filled water hole, + left and 0754.

Aug. 5. Strawberry Canyon Alameda County. 1200 Behavior Lab,

Aug. 5	0616	2013
7	0618	2011
8	0619	2010

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Aug. 5. Strawberry Canyon, Alameda Co.
Weather clear, moderate to light wind, slight turbulence. 1215. Serviced instruments and filled water hole.

Aug. 7. Strawberry Canyon, Alameda Co.
At Behavior Lab pen observing quail beginning at 0630. Weather clear and very light wind; ST layer just below the station. 0643 ST clouds building up and commencing to drift into pen area from the west. 0706 ST buildup has reduced local visibility to less than 100 yards, although blue sky + a patch of sun on a tree top is visible to the east. 0712 ST clearing in east half of sky as first rays of sun appeared over Grizzly Peak. 0736 Sky now mostly clear except for ST persisting to the west; bright sun in patches in the pen, which is mostly shaded by surrounding trees. 0753 Checked instrument operation, and discontinued observations.

Aug. 8. Berkeley, Alameda County.
1500 Weather overcast, with AC and As, estimated at 6000'; few

Aug. 8.	0619	2010
9.	0619	2009
10.	0620	2008

Journal.

Aug. 8. Berkeley, Alameda County.
sprinkles of rain noted in the past hour. Very light wind, horizontal visibility 5 miles. Light rain continued intermittently until evening.

Aug. 9. Strawberry Canyon, Alameda County.
0920 At Behavior Lab. pen, weather variable sky cover 4 to 9 tenths of AC, light wind with slight turbulence. Filled water-hole and spread a can of pigeon grains plus a can of hen chow. Checked instruments operation and rain gage (.08"). For the first time in nearly two months, there are no small birds in the pen — juncos, finches, goldfinches, song-sparrows, ~~and~~ one Red-breasted Nuthatch, have been noted inside in the past - apparently attracted by the water-hole. Yesterday's light rain may have provided water outside the pen temporarily. 1043 Discontinued observations.

Aug. 10. Strawberry Canyon, Alameda Co.
1920 at Behavior Lab pen. Weather clear, calm, and unusually warm. Entire pen and enclosing fence in shadow some sunshine ~~on~~ on surrounding trees. To 2023.

Aug. 11	0621	2007	$13^h 46^m$
12	0622	2005	
13	0623	2004	
21	0630	1954	$13^h 24^m$

Journal.

Aug. 11. Strawberry Canyon, Alameda County.

At Behavior Lab pen at 1730. Weather clear, light easterly wind with slight turbulence. Observed until 1830 then filled water-hole; noted grain still uneaten in the pen. Left station at 1837.

Aug. 12. Strawberry Canyon, Alameda County.

0855 At Behavior Lab pen. Weather: sky obscured with ST above and below station, relatively thin with sun showing through at times, visibility 1/4 to 1/2 mile, light wind with no turbulence. Serviced instruments, set modified Bailey trap and baited it, and commenced observations from the hut at 0922. 0930 Bright sunshine in the pen as the ST is rapidly burning off. By 1030 wind increased to moderate with light turbulence. 1100 Ended observations in order to enter pen for botanical specimens and left at 1135.

Aug. 13. Strawberry Canyon, Alameda Co.

1535 Took station at Behavior Lab. pen. Weather clear, light wind with slight turbulence. Filled water hole

Aug. 13.	0623	2004
14.	0624	2003

Journal.

Aug. 13. Strawberry Canyon, Alameda County.

and set modified trap. 1640. Ended observations and entered pen for more botanical specimens.

Aug. 14. The following plants are the dominant green and actively growing forbs in the pen:

Picris echioides - Bristly Ox-tongue - the most common weed, growing on the remains of Medicago and Vicia patches. Seeds are very small, do not appear to provide quail food.

Madia sativa - Chile Tarweed. Quite abundant, mixed with Picris; seeds are large, at this stage still held within the fruiting head.

Cirsium lanceolatum - Bull Thistle. Also fairly common, and mixed with the two preceding. Seeds small and unavailable within heads.

Silybum marianum - Milk Thistle. Few scattered plants, heads when dry are very tough with strong stiff spines enclosing seeds, which are quite large, and would provide a good supply of food, but are unavailable until the dry heads disintegrate.

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Aug. 14. Berkeley, Alameda County.

Anthemis cotula Mayweed. - scattered plants, some completely dried up, others still flowering. Seeds too small for quail food.

~~Medicago~~ Melilotus indica sweet clover - both completely dried and a few partly green and flowering plants. Very abundant; fairly large seeds, shatter very readily from stems providing abundant available food.

Aster chilensis common aster; - scattered plants, few associated with Anthemis. Seeds small not apparently source of quail food.

Aug. 14. Strawberry Canyon, Alameda County.

1235 Took station at Behavior Lab. pen. Weather clear, moderate wind with slight turbulence. 1300 Turbulence now classed as moderate, with considerable motion even in low vegetation. 1350 Ended observations. Cut tall weeds in A and B rows, leaving Madia and new plants not yet flowered. Filled water hole and left pen at 1420.

Aug. 14	0624	2003
15.	0625	2002
16.	0626	2000

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Aug. 14. Strawberry Canyon, Alameda Co.

1905 Resumed observations in Behavior Lab. pen. Weather clear, pen in shadow except small portion of SW fence. Nearly calm. Observed until 2015.

Aug. 15. Strawberry Canyon, Alameda Co.

0940 at Behavior Lab. pen, weather clear, moderate to fresh easterly wind with moderate turbulence. Observed till 1030, cleared obscuring weeds in clearing D-6, D-7; left pen at 1043.

Aug. 16. Strawberry Canyon, Alameda County.

0925. At Behavior Lab. pen, weather clear, with ST recently cleared, band of AC on eastern horizon, light and variable wind. Observed from the hut until 1005, then entered the pen. Left at 1012.

N.B. Additional plant in the pen ident. as Perideridia Kelloggii (A. Gray) Mathias (Carum Kelloggii). There are small groups of this umbel in scattered areas in the pen.

Aug. 17	0626	1959
18	0627	1958
19	0628	1956
20	0629	1955

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Aug. 17. Strawberry Canyon, Alameda County.
At the Behavior Lab. pen about 1500, no watch to keep accurate time. Weather clear, light to moderate southerly wind, slight turbulence.

Aug. 18. Strawberry Canyon, Alameda County.
0850 At Behavior Lab. pen; weather clear (no early morning ST anywhere in the area) very light wind. The lower (SE) half of the pen is largely in shade of nearby trees. Ended observations at 1015, all of the pen in full sunshine except lower (southeast) edge.

Aug. 19. Strawberry Canyon, Alameda County.
0838 At Behavior Lab pen, weather clear, light to moderate wind with slight turbulence. Slightly over half the pen in shade of nearby trees. Serviced instruments 0940 - 1000, then made another ~~#~~ unsuccessful search for nest signs in D-8, where Silver brood was first seen.

Aug. 20. Strawberry Canyon, Alameda County.
1500 Started observing from hut in Behavior Lab. pen after filling water hole and spreading 1 can of Pigeon Grains. Weather clear, light wind with

Aug.	20	0629	2055	
	21	0630	1954	13h 24m
	22	0631	1952	
	31	0639	2039	13h 00m

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Aug. 20. Strawberry Canyon, Alameda Co.

moderate turbulence; entire pen in full sunshine. Ended observations at 1646.

Aug. 22. Strawberry Canyon, Alameda County.

0848 at Behavior Lab. pen. Weather - overcast ST, station just above the cloud base, visibility ½ mile. Moderate wind, moderate turbulence. Last night minimum temperature in grass (Green probe) was 52°.

Constructed, set, and baited walk-in trap outside the pen, near the north corner. Commenced observations from the hut at 0932. Wind turbulence occasionally quite strong, cloud base lifted to about 200' above the station, visibility locally fair, est. 3 miles. No dew on the ground level vegetation. Ended observations at 1002.

1415 Resumed observations. Weather clear except for few remnants of ST, wind same as earlier. Checked walk-in trap at 1500, no birds or sign of bait being taken. 1528 sky 7/10 covered with newly forming SC, ended observations.

Aug. 23	0632	1951	
25	0633	1948	
27	0635	1945	
29	0637	1942	
31	0639	1939	$13^h\ 00^m$

Journal.

Aug. 23. Strawberry Canyon, Alameda County

1016 at Behavior hab. pen. Weather overcast, ST base about 300' above the station, visibility 3 miles, light wind with slight turbulence, exceptional occassional gusts of moderate wind with strong turbulence. At 1030 sun broke through for only a second. 1106 Serviced + reset traps, and left at 1116.

Aug. 24. Strawberry Canyon, Alameda County.

0855. At Behavior hab. pen. Weather overcast with ST blanketing Bay side of the hills, thin enough so that sun can occasionally be seen, and extending 600 feet below the station, generally remaining 100 feet above the surface. Visibility 1/2 to 2 miles. Light wind, little or no turbulence. Serviced trap outside the pen and left it unset. First bright sunshine broke through at 0932. At 1058 the clouds were burning off rapidly, with sunshine general in the pen. Ended operations at 1006.

Journal

Aug. 26, 1963. Strawberry Canyon, Alameda Co.

0940 At Behavior lab. pen, weather clear, light wind with slight turbulence. Serviced instruments, spread 1 can of pigeon grains, rigged hose to supply trickle of water to the water-hole. Left at 1000.

Departed Berkeley in the station wagon at 1340, mileage 44546, and arrived at Hastings reservation about 1650, mileage 44691. Observed quail feeding near the headquarters area until 1900.

Aug. 27, 1963. Hastings Reservation, Monterey Co.

Took station at 0802 near the water-tank and pump, where seepage provides a ground level water hole, using the car as a blind. Weather clear and calm. Watched this area until 0855, when Geiger took over until 0930.

Hastings Weather Record: Rain Aug. 8 - .01"; Aug. 9 - T.

Chart changes: July 28, Sunday, 0820 - Friez chart set for "Monday".

Aug. 4, Sunday, 0700 - Friez chart on "Monday".

Aug. 27, Tues., 1100 - " " on "Tuesday".

Checked traps stored in barn - collecting exit of large cloverleaf traps are

Journal.

Aug. 27. Hastings Reservation, Monterey County

rough sizes, from 6"×8" to 8"×10".

Left Hastings at ~~101~~ 1342 (mileage 44692) and arrived at Hunter Liggett Military Reservation at 1510 (mi. 44753), and were given quarters in the Hacienda, Room 1-C (large room with twin beds, ~~do~~ private bath, and refrigerator).

Made a road census from 1800 to 2000 over the same route as on previous visit, covering 8.7 road miles, and also investigating three water points more closely for quail.

Aug. 28. Hunter Liggett Military Reservation, Monterey County, California.

Made a road census by car along 7.3 miles, same area as before, flushing coveys where encountered near the road, from 0725 to 0925.

On return to HQ, checked out of the Hacienda, and took back road to Milpitas Road at the north end of the Reservation, and as far as "Wagon Caves" in Los Padres National Forest. Returned to Hunter Liggett for lunch and

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Aug. 28. H.L.M.R., Monterey County, Calif.
gas, and left for McMillan Ranch at 1210 (mileage 44828). Arrived at McMillan Ranch about 1400, (mileage 44908). 1600 Went to blind at Marian Spring, rigged awning, & repaired screening where ripped by cattle chewing the burlap. Observed from 1630 to 1737, interrupted for 38 minutes by cattle watering. Weather clear with light wind.

[Note from Weather Log:
~~Aug. 4, 1963~~ July 25 - Change chart to 1900.
Aug. 1 - Changed chart at 1200.
Aug. 9 - Changed chart at 1700 - set wrong - 12 hours ahead.
Aug. 16. - Changed chart 1000.
Aug 24. - Changed chart 1205.

Aug. 29. McMillan Ranch, San Luis Obispo Co.
Observed quail at the water hole from 0753 until 0930, while Ginger was observing at another spring 200 yards down the canyon. Walked down to second spring and back, and ended field observations at 1005. Estimated a total of 790 quail were seen this morning.
1115 to 1215 made collecting trip

Journal.

Aug. 29. McMillan Ranch, San Luis Obispo Co.
with Ian McMillan above Marion Spring.
Then another tour at 1845 over
the ranch area close by. Collected
4 birds in the two trips.

Aug. 30. McMillan Ranch San Luis Obispo Co.
0810 at Marion Spring blind. Weather
overcast with breaks, CU and SC at
5000'. Light wind and rather cool.
A dozen or more Brown Towhees, a pair
of Scrub Jays, a few young Meadowlarks
and Mourning Doves are using the water.
A pair of Lark Sparrows and a ♀ humming-
bird also noted, not seen to drink.
0915. Wind increased to moderate from
the southwest; noted mammato-
formation in clouds to west, with
blue sky visible beyond them.
At 0938 watch time, noted that watch
had stopped - at least (?) ten minutes
had elapsed. Rewound, did not
reset at this time. 0950. Sky cover
now 7/10 as heavy cloud bank moved
past to the east. 1000 Sky cover 5/10,
cloud cover clearing the sun to give
full bright sunshine in this area.
Ended observation at 1005. (Watch
correction + 8 minutes by later
check.

Sept. 1 - 0639 ~~37~~ 1938

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Aug. 30. McMillan Ranch, San Luis Obispo Co.
Left the ranch for Berkeley, mileage 44912, about 1110, and arrived at 1730, mileage 45156 after a slow trip with heavy traffic that slowed Nimitz Freeway to occasional stops – left freeway at 98th and found equally bad conditions crossing to Warren Blvd, then clear the rest of the way. Total trip mileage 610 mi.

Aug. 31. Strawberry Canyon, Alameda County.
Checked the Behavior Lab. pen at 1930 and observed foraging birds for ten minutes; then placed a can of Pigeon Grains and a can of Hen chow – half of each in separate pie plates, to check both consumption rate and preferences, and half scattered on the ground. Provided another dust bath in C-2. Renewed hose – water hole is full.

Sept. 1. Strawberry Canyon, Alameda County.
At the Behavior Lab. pen at 1715 – checked trap and released Scrub Jay in it and reset. Observed penned birds from the hut from 1720. Weather clear, light wind with slight turbulence. Ended obs. at 1755.

Sept. 2	0640	1937
3	0641	1935

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Sept. 2. Strawberry Canyon, Alameda Co.

0845 at Behavior Lab. pen, weather clear, calm, good visibility, dew on the ground vegetation where sun has not yet reached it (over half of the area in the pen.

Checked trap outside, released Scrub Jay, and reset. Serviced instruments, refilled water hole, and began observations from the hut at 0857. Observed 2-hours then examined inside pen. & left at 1125.

Sept. 3. Strawberry Canyon, Alameda County.

At Behavior Lab. pen at 0800, weather clear, light wind with slight turbulence. A black house cat was sitting by the trap outside the pen, and I found two dead immature quail - the top was dislodged & remnants of one quail had been pulled out of the collecting net section.

0840 Wind has increased slightly, turbulence now moderate.

Observed penned birds until 0920. Then covered trap outside with chicken wire & blocked exit to keep cats away from trapped birds; reset and baited trap. Watch cor. + 21 min.

Sept.	4	0642	1933
	5	0643	1932

Journal

Sept. 4. Strawberry Canyon, Alameda County.

1045 at Behavior Lab. pen. Weather: sky obscured by ST blanketing hills on the bay side, base from 0 to 50 feet above the ground surface, sun occasionally showing through. Visibility 100 yards to ½ mile as local cloud shifts occur. Moderate wind with light turbulence. Serviced trap, and commenced observation of birds in the pen at 1100, until 1150.

1610. At Behavior Lab again to check trap and observe birds in pen. Released Scrub Jay from trap. Weather continued obscured with ST blanketing hillside, now heavier than this morning, wind about the same. Several Chestnut-backed Chickadees now inside the pen, at water & feed pans.

Sept. 5. Strawberry Canyon Alameda County.

0900 Weather at the Behavior Lab: obscured with ST covering bay and hills, base 800' below station and dense above. Visibilit 50 yards. Active fog drip, not very heavy, and light dew on ground vegetation. Nearly calm. Slight shower about 0840 in Berkeley. Filled water hole, released Scrub Jay from trap out-

Sept. 9   0646   1926

Journal.

Sept. 5. Strawberry Canyon, Alameda County.

side the pen, and check pans of grain: Pigeon Grain 3/4 consumed, Hen Chow 1/2 or less consumed. Did not remain for observations of penned birds.

1700 Weather at Behavior Lab. clear, light wind, slight turbulence.

1720 Shadows now covering 3/4 of ground in the pen, pictures only possible if a bird perches on B-7 eucalyptus, so ended obs.

Sept. 9. Strawberry Canyon Alameda County.

0940. Weather at Behavior Lab - obscured in ST covering the Bay Area, thicker on the hills, base about 600' below the station; dense cloud with no ~~s~~ indication of sun appearing through it. Visibility 50 yards. Very heavy fog drip plus light drizzle (rain-gage 0.02"). Replenished food & water in the pen and serviced instruments. At 1020, leaving the Lab., cloud base had lifted to about 100 feet below the station, and appeared from below to be still quite thick, and composed partly of SC.

Sept. 1	0639	1938	12h 59m
10	0647	1924	
11	0648	1923	12h 35m
12.	0649	1921	
21.	0657	1907	12h 10m

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Sept. 10. Strawberry Canyon, Alameda County.
0945. Weather at Behavior Lab clear, very light wind. Replenished water hole, and checked instruments; wind pen operating OK. Checked trap and released Scrub Jay in it.

Sept. 11. Strawberry Canyon Alameda County.
0800 At Behavior lab. Weather overcast with breaks, AS and high SC, thicker in the east. Nearly calm. Checked trap outside the pen, released a junco, and left it unset. Observed quail in the pen until 0847, then refilled water hole.

Sept. 12. Strawberry Canyon, Alameda Co.
1710 at Behavior Lab. pen to read rain gauge. Weather overcast with ST, SC, AC, low ST on slopes of Grizzly Peak. Showers now ended after occurring throughout the day, total 0.15". Baited and set trap outside.

Sept. 13. Strawberry Canyon, Alameda County.
1010 at Behavior Lab. pen. Weather nearly clear, about 1/10 SC remnants of morning ovc. Ground damp from yesterday's rain plus fog

Sept.	13.	0650	1920
	15.	0651	1916

Journal

Sept. 13. Strawberry Canyon, Alameda County.
and dew last night and this morning. Checked trap outside pen, and began observations from the hut. Wind light, with slight turbulence. Left pen at 1140.

At 1410 rebuilt trap below the population pits, in a cleared area adjacent to *Baccharis* patch, after dismantling the set-up near the pen. Pre-baited it and left unset.

Sept. 15 - Strawberry Canyon, Alameda County.
At the Behavior Lab pen at 1400. Weather: OVC thin AS moderate wind with slight turbulence. Observed penned quail for 20 minutes, then replenished food: 3/4 can each of hen-chow and pigeon grains, in two pans. Refilled water hole and cut a few weeds in the center clearing.

The walk-in trap set up Friday showed no signs of having been visited; I added more bait in the vicinity, & blocked the exit to set the trap. Left the Behavior Lab. at 1440.

Sept. 16	0652	1915
17	0653	1913
18	0654	1912
19	0655	1910
20	0656	1909

Journal.

Sept. 16. Strawberry Canyon, Alameda Co.

0845 At Behavior Lab pen, weather OVC AS, sun's disk dimly visible. Calm, no dew on ground vegetation. Checked trap - empty with no evidence of bait being taken. Serviced instruments in the pen.

1910. Checked trap, no evidence of use.

Sept. 17. Strawberry Canyon, Alameda Co.

1730. Serviced food, water, and trap. Bait around and in trap was about 3/4 eaten, but no birds in the trap - apparently the funnel opening is not a barrier to whatever is eating the grain. Rebaited, + adjusted entrance.

Sept. 18. Strawberry Canyon Alameda Co.

1730 Serviced the trap in the Behavior Lab.

Sept. 19. Strawberry Canyon, Alameda Co.

1400. Checked food + replenished water in the Behavior Lab. pen, and serviced trap outside.

Sept. 20. Strawberry Canyon Alameda Co.

1330 Serviced trap in the Behavior Lab.

Sept. 21	0657	1907	$12^h 10^m$
22	0657	1906	
23	0658	1904	
25	0700	1901	
26	0701	1859	
Oct. ~~3~~1	0704	1853	$11^h 49^m$

Journal

Sept. 22. Strawberry Canyon Alameda Co.

1300 Serviced trap in the Behavior Lab, baited and reset it.

Sept. 23. Strawberry Canyon Alameda Co.

0830 At Behavior Lab: weather clear and calm, very heavy dew on the ground and dripping from the wire netting on top of the pen. No birds in the trap outside the pen.
Serviced instruments, water-hole, and food pans.

Sept. 25. Strawberry Canyon, Alameda Co.

0830 At Behavior Lab: weather clear and warm, moderate to fresh NE wind with slight turbulence. No birds in the trap outside the pen. Observed birds in the pen until 0908, then filled the water hole.

Sept. 26. Strawberry Canyon, Alameda Co.

At Behavior Lab at 1430. Weather clear + very hot (temp. at grass level 110°), light wind with no turbulence, after strong winds in early morning. Relocated walk-in trap inside the pen in C-7, baited but left unset. Checked temp. readings.

	0701	1859
Sept. 26	~~0728~~	~~1817~~
27	0702	1858
28	0703	1856

Journal.

Sept. 26. Strawberry Canyon, Alameda Co.

1845 Returned to Behavior Lab pen for observation of captive quail. Weather clear, calm, pen and surrounding trees already completely shaded. Set trap in pen.

Sept. 27. Strawberry Canyon, Alameda County.

0910 at Behavior Lab. pen. Weather 2/10 CU, light wind, no turbulence. 1640. Again at Behavior Lab. Weather clear, light wind, no turbulence.

Sept. 28. Strawberry Canyon, Alameda Co.

Checked trap in the Behavior Lab. pen at 1450, found no quail, but apparently some grain had been eaten — perhaps by rodents or small birds that could find their way out. Left it set, with no additional food outside the trap. Replenished the water hole. At 1505 Relocated the trap along the fence in C-10, where birds pass more frequently. 1535 after experimenting with trap position and watching the birds' reactions, left it unset.

Sept. 29	0704	1855
30	0704	1853
Oct. 1	0704	1853

Journal.

Sept. 29. Strawberry Canyon Alameda Co.
1915. Set trap in the Behavior Lab. pen and replenished bait of Pigeon Grains. The bait remaining consisted almost entirely of the smaller seeds in the mixture.

Sept. 30. Strawberry Canyon, Alameda County.
At Behavior Lab. pen at 0820, serviced trap and instruments, refilled water hole. Weather overcast 57, base just below the station, visibility ½ mile. Fog drip from eucalyptus trees.

Oct. 1, Strawberry Canyon, Alameda Co.
0820. Checked trap in Behavior Lab. pen and left unset, with a full can of pigeon grains scattered in and around it; broadcast another can in the center of the pen; filled water hole. Weather clear and warming with fresh NE winds and moderate turbulence.

1202 Left Berkeley (mileage 46075) and arrived Hastings Reservation about 1700 (mileage 46254). Purchased 25 lbs. of feed for bait ($1.40) and 15 feet of 18" chicken wire for trapping ($1.25). After arrival, set

Hastings

Oct.	1	0701	1850
	2	0702	1848
	3	0703	1847
	4	0704	1845
	5.	0705	1844

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Oct. ~~2~~ 1. Hastings Reservation, Monterey County.

a large figure eight trap in the gully opposite the old barn, and smaller traps (with entrance funnel inserted) near brush by White house, and by large *Ceanothus* in "Quail Hollow" in back of Davis house.

Oct. 2. Placed two traps near entrance gate.

Oct. 3. Hastings Reservation, Monterey County.

0830 Checked traps - no birds but bait entirely eaten probably by ground squirrels. Rebaited all three.

Excerpts from K. White weather log:

"2. Sept. Foxboro purple 77 (67 actual) red 105 (95 actual), blue 82. Time 11:15. Friez temp. 90, RH 31. Time 12.00. Psychrom (in Friez shelter) 86.5 - 64.5 - 28%

" 3. Sept. Removed Friez for checking.

" 5. Sept. Friez checked, RH 3% in error (not a calibration - no control chamber).

" 6 Sept. Friez back in shelter.

" 9 Sept. Foxboro: shelter 67, brush 61, open 70. Friez 69, 41%. Psychrom (in shelter) 70.5 - 56 - 38%

" 13 Sept. Fri. 0.07" precip.

" 16 Sept. Foxboro: shelter 59, open 63, brush 58, time 0900.

Friez: 61° 45%

Psychrom: 61.5, 49, 39%

Journal.

Oct 3. Hastings Reservation, Monterey Co.

"18 Sept. 0.15" precip. during day.
"23 Sept. Foxboro shelter 62, open 63, brush 57. Friez: 63° - 60%
Psychron (in shelter) 62.5 - 57.5 - 74%
"30 Sept. Foxboro shelter 75, open 80, brush 69, time 0945 - Chart not changed.
Friez temp. 78, RH 40.
Psychron 77.5 - 58.5 - 30% "
— end excerpts —

Evening check of traps showed no birds. During the day I placed a trap with underground tunnel entrance below the hillside brush in back of the Bell house; and a small trap near the pump across the canyon. Removed the small trap from near the brush patch in front of the White house.

Oct. 4. Hastings Reservation, Monterey County.

Checked traps beginning at 0840 and again at 1140, no birds in them. Moved the large figure-8 trap from the gully near the barn to the level ground ~~in~~ in front of the White house.

1740 Weather: overcast SC, giving ~~and~~ an apparent early dusk. Started

Berkeley

Oct. 7	0710	1843	
8	0711	1842	
9	0712	1841	
11	0713	1838	$11^h 25^m$

Journal.

Oct. 4. Hastings Reservation, Monterey County.
check of traps & observing quail in their vicinity.

Oct. 5. Checked the traps, and unset all six, leaving them in place. Left the Reservation at 0937 (mi. 46284) and arrived at Berkeley 1236 (mi. 46428). Total trip mileage 353.

Oct. 7. Strawberry Canyon, Alameda County.
0840 at Behavior Lab. Weather 4/10 thin AS. Very light wind, no turbulence. No appreciable dew. Set trap in C-10; all grain left in the open trap last week was eaten, so either birds or rodents have been going in the trap. Filled water hole and serviced instruments. 0910 Wind freshened to moderate, with moderate turbulence. 0930 Scattered one can of pigeon grains in center of pen & around trap approaches, in addition to ½ can used to bait the trap.

Oct. 8. Strawberry Canyon, Alameda County.
Serviced trap in Behavior Lab. pen and

Journal.

Oct. 8. Strawberry Canyon, Alameda County.
refilled water hole 0820 to 0840.
Weather overcast SC, base est 3000' or higher, with sun beginning to break through. Very light wind, no turbulence.

Oct. 9. Strawberry Canyon, Alameda County.
at 0815 checked the trap, then left it unset. Made instrument check in very stable conditions - 58½° F. and 100% humidity all locations. Weather obscured in stratus with base est. 200' below the station; clouds OVC SC and CU with breaks as seen from the city below. Very light wind with slight turbulence, ground surface moist, but not saturated, from showers last night.

Oct. 11. Strawberry Canyon, Alameda County.
0810 Weather at Behavior Lab. 8/10 CU over the hills, clearing over the bay, calm, ground very wet from last night's rain of 1.55". Trapped & banded birds in the pen. Yesterday's storm knocked down both tall weeds and some of the eucalyptus: in B-7, the central stem was knocked down,

Oct.	13	0715	1835
	14	0716	1833

Journal.

Oct. 11. Strawberry Canyon, Alameda County.

leaving only a rosette of branches near the ground; in D-4, one major stem was down; and several small stems in all eucalyptus. These appeared to have been weakened by rotting just below the surface of the ground, where they broke off under the wind impact. Left trap unset and baited when I left at 0900.

Oct. 13. Strawberry Canyon, Alameda County.

1700 Weather at Behavior Lab. 8/10 AS and CI, thin clouds after a clear day, no wind. Serviced + set trap, baited in the trap area with 3/4 can of hen chow, scattered 1/4 can in center clearing. Noted a number of mole ridges. Left the station at 1730.

Oct. 14. Strawberry Canyon, Alameda County

0810 Weather at Behavior Lab. pen: broken sky with 5/10 AC and 4/10 CI, calm. Thick stratus bank covering hills to west extending from near sea level to just above station level and ST filling ravines locally below the station. Serviced trap and weather instruments. Added 1/2 can pigeon grains, left trap unset. Left at 0920.

Oct. 15	0717	1832
16	0718	1831
18	0720	1828

Journal.

Oct. 15. Strawberry Canyon, Alameda Co.

1730 Weather at Behavior Lab: overcast CU and SC, cloud base just at the station, clearing to the west after rain from mid-morning to 1700. Baited and set trap in the pen, serviced rain gage.

Oct. 16. Strawberry Canyon Alameda County.

0815 at Behavior Lab. Weather 8/10 CU, SC, and AC, clearing after early morning rain. Ground very wet after rain yesterday & last night totalling 0.64". Serviced trap & read rain gage. Light to moderate wind with moderate turbulence. Spread another 1/2 can of grain in & around the trap and left it set. Left station at 0850.

1630 Again checked trap, and left it unset. Spread a full can of grain both as bait and for food supply.

Oct. 18. Strawberry Canyon, Alameda County.

0920 at Behavior Lab. pen. Weather clear, hazy, very light wind with slight turbulence. Checked trap in the pen - grain not completely eaten

Oct. 19	0721	1826	
20	0722	1825	
21	0723	1824	$11^h 01^m$

W. J. Francis
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Journal.

Oct. 18. Strawberry Canyon, Alameda Co.

in the trap and approaches. Added ½ can of bait.

Vegetation in the pen is taking on a new look - most of the annual weeds that have been prominent are dead + fallen, some composites are flourishing and blooming, and all the exposed surface is covered with a good growth of new grass. The several Baccharis plants are thriving after the early rains - both those planted last spring, and the natural seedlings. Left the station at 1020.

Oct. 19. Strawberry Canyon, Alameda County.

1120 At Behavior Lab. pen, weather overcast ST, est. 5000' base, Light wind, no turbulence - cool, below 60°F all morning. Serviced the trap inside the pen, and left it unset.

Oct. 20. 2000. Set and rebaited the trap.

Oct. 21. Monday. 0810 at Behavior Lab. pen, weather overcast ST about 300' above the station; very light wind, no turbulence.

Oct. 21	0723	1824	$11^h 01^m$
22	0724	1822	
23	0725	1821	

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1963.

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Oct. 21. Strawberry Canyon, Alameda County.

Both vegetation + ground surface wet with dew (and past rains).

Serviced weather instruments and trap; left the trap set. Filled the water hole.

1730. Serviced trap again - scattered a can of grain in the center of the pen.

Oct. 22. Strawberry Canyon, Alameda County.

1100 Brought a new sack of Hen Chow (25 lbs) to the Behavior bird. pen. One bird in the trap, escaped as I approached - the trap was somewhat out of shape, probably due to escape attempts of a number of birds. I adjusted the trap, rebaited with ½ can grain, + spread another ½ can in the center of the pen.

Weather: 8/10 CU, fair visibility, very light wind with no turbulence. Observed penned birds till 1205, when weather was 4/10 CU, moderate wind with moderate turbulence. Left trap unset.

Oct. 24	0726	1820	PDST
28	0630	1715	PST

Journal.

Oct. 23. Strawberry Canyon, Alameda Co.

0850 at Behavior Lab pen; weather 9/10 Cl, few CU and SC. Very light wind no turbulence, excellent visibility. Ground saturated and vegetation wet from last nights rain.

Serviced rain gage & set the trap inside the pen.

1620. Checked trap again - no birds.

Oct. 24. 0910 serviced trap in the pen, then pruned eucalyptus which were growing through the top of the pen & overhanging the instrument shelters. Filled water hole and scattered another full ~~grain~~ can of grain (2 days ration); left trap unset. Completed at 1050.

Oct. 28. Strawberry Canyon, Alameda County.

0815 checked Behavior Lab. pen and found that trap had been inadvertently left set on last visit & contained 5 birds - all good conditions. Scattered two cans of grain, filled water hole, & left trap unset. Serviced instruments & left at 0905.

Daylight Saving Time ended yesterday, these times are P.S.T.

Hastings

		Rise	Set.
Oct.	29.	0628	1711
	30	0629	1710

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1963.

Journal.

Oct. 29. Left Berkeley at 1035, mileage 46986. Bought color film at Oakland PX, $3.10. Arrived at Hastings Reservation 1535, having stopped to bait and set the two traps near the bridge. The trap near the Bell house was set & baited (by Jim Bell), and I set the other three traps — in front of the White house, in Quail Hollow back of the Davis house, and near the water pump. Six deer (does & well grown fawns) were loafing under the trees along the gully and did not move when I passed within less than 50 feet!

In the evening, a birthday party for Gary Tremper, with Dr. & Mrs. Lowell Adams plus all the residents of the Reservation & Carol (?), Betty Davis' assistant. Turkey dinner & the works!

Oct. 30. Hastings Reservation, Monterey Co.
0715 Checked the three traps near the headquarters area, & replenished grain eaten by magpies, towhees, and cottontails. One cottontail in the trap in front of the White house.

W. J. Francis
1963.

Journal.

Oct. 30. Hastings Reservation, Monterey County

Excerpts from K. White weather log:

"7 Oct. - Foxboro shelter 57, open 55, brush 55 at 0900; Friez 57½° 66%; Psychron 58½° - 52½° - 66%.

"11 Oct. Rain during night 0.76".

"14 Oct. 1415 Foxboro shelter 76, open 79, brush 70; Friez 75° 44%; Psychron 74° - 61° - 47%.

"16 Oct. 0.85" rain during nite.

"21 Oct. Foxboro shelter 59, open 56, brush 54; Friez 58° 54%; Psychron 60 - 52.5 - 60%

"28 Oct. Foxboro shelter 64, open 61, brush 59; Friez 65° 45%; Psychron 61½ - 53½ - 58%"

End excerpt.

1040. Left the Reservation Headquarters for McMillans (mileage 47146), serviced the traps near the entrance on the way out. Stopped in Paso Robles for gas and melons, and arrived at McMillan Ranch at 1509, mileage 47279.

Proceeded to the area above Marion Spring and set and baited the traps there.

Spent the evening discussing quail populations in general, and other subjects with Ian McMillan.

McMillan

	Rise	Set	
Oct. 31	0624	1702	10h 38m
Nov. 1			

Journal.

Oct. 31. McMillan Ranch, San Luis Obispo Co.

0915 Checked the trap above Marian Spring, then hiked over the ridges to the south with Ian McMillan to scout quail locations, returned to the Ranch house about 1120.

Again checked the trap about 1700 just before sunset, then drove over the ranch to check coveys.

Nov. 1. McMillan Ranch, San Luis Obispo Co.

0900 Checked the trap above Marian Spring then unset it. Walked over the ridge while Ian McMillan checked lower Portugee Canyon with the dog to locate quail coveys. Left the Ranch at 1050, mileage 47284, and arrived at Hunter Liggett Military Reservation at 1217, mileage 47362. Settled in Room 3 in the Hacienda, then went in to King City to replace a tire that collapsed.

[Kodachrome #1: Marian Spring water trough from brushy hill, looking NW.]

Journal

Nov. 2. HLMR, Monterey County, Calif.

0700. Checked at Game Management office to observe quail hunting program operations at the ~~office~~ reservation. A line of about 50 hunters were on hand at this time, most were given permits & cleared before 0800. Estimate a total of 175 hunters in areas B, E, F, and G (~~see~~ photo map.), an area of around 200 sq. km. - at least 300 acres per hunter. 1053. First hunter checked in, reported taking a limit but gave away 5; birds very abundant - "under every briar patch".

By 1400, 48 hunters had checked in early parties included a number of small boys & success was quite low on the average. A number of birds were quite young, with incomplete molt. Youngest noted retained #8 primary, #7 only partly grown, and had many juvenile contour feathers. At 1510 an even younger bird noted, a ♂ without black throat, only black under eye & white above, with much juvenile plumage.

Weather clear in the morning, gradually clouding up to overcast by noon, with intermittent light to moderate rain beginning about 1300.

Journal.

Nov. 2. HLMR, Monterey County, Calif.

1815 Last quail hunters checked in; permit records showed 163 hunters. Two Mountain Quail taken. See addenda sheet 130a. for individual bag success.

[Kodachrome #2 - Map of hunting areas in HLMR.
#3 - same at 9 a.m.
Sunday Nov. 3].

Nov. 3. H.L.M.R., Monterey County, Calif.

0900 Left the station for home at this time, after leaving check sheets at the Game Management Office. Arrived home in Berkeley at 1200, mileage 47578. Total trip mileage 592 miles.

Nov. 4. Strawberry Canyon, Alameda County

0815 Weather at Behavior Lab: overcast with low clouds, station just within the cloud base, steady rain with varying intensity continuing since early last night. Strong turbulent wind, visibility 75 yards. Unset the trap which I had set last night and serviced weather instruments.

Hunter Success: HLMR, Nov. 2, 1963

AREA	No.	Bag	Per Hunter	No.	Bag	Per Hunter
B	3	10	3.3	2	3	1.5
	2	14	7.0	2	14	7.0
	2	10	5.0	2	8	4.0
	4	5	1.25	1	10	10.0
	1	7	7.0	(?) 4	32	8.0
	2	8	4.0	1	1	1.0
	3	30	10.0			
E	4	15	3.75	1	10	10.0
	1	4	4.0	6	31	5.2
	1	1	1.0			
F	3	14	4.7	5	17	3.4
	3	6	2.0	3	5	1.7
	2	20	10.0	2	15	7.5
	3	23	7.7	3	7	2.3
	2	1	0.5	14	3	4.7
G	1	5	5.0	2	16	8.0
	3	3	1.0	4	18	4.5
	3	1	0.3	3	7	2.3
	4	27	6.75	3	18	6.0
	1	10	10.0	1	10	10.0
	4	40	10.0	2	16	8.0
	3	13	4.3	1	7	7.0
	2	15	7.5	2	11	5.5
	2	7	3.5	2	10	5.0
	2	16	8.0	2	1	0.5

G. 4	13	3.3	2	7	3.5
2	16	8.0	1	4	4.0
3	11	3.7	2	15	7.5
~~Hunter Total 141~~			1	7	7.0
~~Bird Total~~:			3	12	4.0
2	8	4.0	1	1	1.0
3	30	10.0			

Hunter Total 151 : 16 limits of 10.
Bird Total

Journal

Nov. 6. Strawberry Canyon, Alameda County.

0940 at Behavior Lab. pen. Scattered 1 can of grain + set the trap in the pen; serviced rain gage, + observed quail in the pen. Weather overcast with heavy towering CU, showers in sight to the west. Heavy showers with hail occurred before 0700 this morning, + intermittent light to very heavy rain all yesterday afternoon. Wind has been moderate to strong + turbulent. By 1015 the heavier clouds had moved off and blue sky appeared in patches in the west. 1045. Numerous breaks in the clouds, but new clouds are moving in. I entered the pen to take birds out of the trap.

Nov. 10. Strawberry Canyon, Alameda County.

1630 at Behavior Lab. pen. Serviced rain gage, set trap + baited with one can of grain. Weather 4/10 AS, light wind with moderate turbulence. Sunlight on upper halves of surrounding trees, none on any part of the pen at this time. Took birds in trap, weighed + examined, left trap set. Left. 1720.

Journal

Nov. 11 Strawberry Canyon, Alameda Co.

0815 at Behavior Lab. pen. Weather clear with strong + turbulent easterly wind. Serviced traps and instruments. Scattered ½ can of grain around the pen, the other half can baited the trap which I left unset. Left pen at 0905.

Nov. 14. Strawberry Canyon, Alameda Co.

0830 at Behavior Lab pen. Weather: station obscured in clouds, base est. 300' below station visibility 50 yards. Intermittent light rain at this time, occul. heavy rain earlier this morning. Fresh to strong southerly wind, moderate turbulence. Serviced rain gage (0.39") and scattered two ~~of~~ cans of grain – 1 can in areas A-1 and A-2, in the vicinity of relocated unset trap. Noted a strong "mousy" odor in the observation hut – no signs of rodents inside. Observed birds in the pen until 0940. ~~Severe thunderstorm be~~

Journal.

Nov. 15, Strawberry Canyon, Alameda Co.

1015. Serviced rain gage & checked birds in Behavior Lab. pen. As I was leaving a severe thunderstorm with hail began, about 1030, and continued as I returned along Grizzly Peak Blvd. Hailstones reached a size of 1/4 inch diameter & nearly covered the streets.

Nov. 16, Strawberry Canyon, Alameda Co.

1015 Serviced rain gauge + placed new 2'×4' trap of 1"×2" wire mesh in area D-4. Baited the vicinity with 1/2 can of grain, left trap unset.

Nov. 18. Strawberry Canyon, Alameda County.

0815. At Behavior Lab. pen. Weather clear, good visibility, light wind without turbulence. Set and baited the new trap in D-4, and serviced weather instruments. Beginning 0847 observed penned birds from the hut until 0920, when I left to reconnoitre the surrounding area for wild coveys. I returned at 1010, observed until 1035, then unset the trap, added another 1/2 can of grain, & left the pen.

Journal.

Nov. 20. Strawberry Canyon, Alameda County.

0815 at Behavior Lab. pen. Weather 8/10 SC, concentrated over the hills, clear over the Bay. Very light wind, no turbulence. Ground + vegetation very wet after last nights' rain (0.75"). Serviced rain gage. Installed new entrance funnel to trap, baited with ½ can of grain, and set it. By 0845 sky became overcast with ST and SC at about 4000 feet. Noted a song-sparrow in the trap - it left through the 1" wires with no difficulty. 0925 ended observations for this morning, leaving the trap set.

1615 Checked trap + found it empty, left it set after checking birds in the pen.

Nov. 21. Strawberry Canyon, Alameda County.

0820 at the Behavior Lab. pen. Weather clear and calm, excellent visibility. Added ½ can of grain around the trap, and observed the penned birds from the hut. Occnl. moderate gusts of wind. At 0850 ended observations and left the pen leaving the trap set.

1018 Resumed observations. Weather

Journal.

Nov. 21. Strawberry Canyon, Alameda County

3/10 AC (mostly in SE quadrant) and 2/10 Cs (generally to the west). Wind light to moderate with moderate turbulence, exceptional visibility. 1125 Sky is now 8/10 AC, in band moving from the west, wind moderate to fresh. 1145 Unset the trap, added another 1/2 can of grain, + left the station at 1150.

Nov. 22. Friday. Berkeley, California

President John F. Kennedy was assassinated in Dallas, Texas, this morning.

Nov. 24. Strawberry Canyon, Alameda Co.

1500. Serviced rain gage in Behavior Lab. ~~traps~~ (1.28"). Weather clear, few CiCu to west, calm. Set trap in the pen + baited with 1/2 can of grain (one day estimated ration). All grain put out Thursday had been eaten.

I cleaned the observation shut, including evicting one house mouse. stopped probable mouse entrance with steel wool, and sprayed with insecticide when I left at 1535.

Journal.

Nov. 25. Strawberry Canyon, Alameda Co.

0950 At Behavior Lab. pen, weather ovcst thin cirrus with breaks, strong + very turbulent wind and exceptional visibility. Wind from NE, indicates cPk air mass. Serviced trap and weather instruments.

Nov. 27. Strawberry Canyon, Alameda Co.

0950 At Behavior Lab. pen, weather thin Ci overcast, light wind with moderate turbulence, slightly hazy with fair visibility. Set trap and baited with a full can of grain. Observed until 1035.

Nov. 28. Strawberry Canyon, Alameda Co.

0930, At Behavior Lab. pen serviced trap, left unset, + baited a full can of grain. In removing birds from the trap, they showed a preference for the lowest corner in seeking escape, and consequently did not readily go through the exit gate which was up-slope. I moved the trap to place the exit opening down hill. Weather clear, strong + very turbulent east wind. Left the Lab. at 1000.

W. J. Francis
1963

Journal

Dec. 1. Strawberry Canyon, Alameda County.

1615 At Behavior Lab. pen. Weather clear, light wind with no turbulence. Visibility good locally, mist & haze over the bay. Set the trap in the pen & baited in and around it with a full can of grain. Sunlight on part of the top of the pen only. 1627 Entire pen structure in shadow, upper half of surrounding trees in sunlight. 1705. Moderate wind gusts, did not persist; ended observations at this time.

Dec. 2. Strawberry Canyon, Alameda County

0820. At Behavior Lab. pen, serviced weather instruments and trap. 0900 Weather: Clear, after stratus and ST-CU topping the hills in early morning, locally very light wind (strong gusts noted earlier in the morning en route here). Removed trap from the pen, & left at 0910, having filled the water hole, & scattered one can of grain in addition to that remaining from yesterday's bait.

Journal

Dec. 3, 1963. Left Berkeley, Alameda County, at 0954 for Hastings Natural History Reservation, Monterey County. Starting mileage 48223. Arrived at the Reservation (main gate) at 1557, having stopped for visits and to buy chick chow for bait. Baited the two traps near the gate & set them, then proceeded to the H.Q. area and set and baited the 4 traps in that area. I also set up the new trap on the flat just above the Davis house, but discovered I had left the entrance funnel in Berkeley. Prebaited the area around this trap. In the evening I went over the banding records for 1951-52, finding, as I had suspected, a difference between the ~~in~~ number of different individuals as compared to the number of trappings, in the different sex & age categories.

— Excerpts from K. White weather log:
"4 Nov. 1963. 11<u>45</u>. Foxboro open 64, brush 62, shelter 62. Friez 62°-57%. Psychron 64°-56°-60%
"6 Nov. Wed. Rain 0.77"
"7 Nov. Thu. Rain 0.13"

Journal.
Hastings Reservation, Monterey County.

"9 Nov. Sat. Rain 0.02".
"11 Nov. Mon. 9:30 a.m. Foxboro open 62, brush 58, shelter 66. 45 min. slow. Friez 64° 35%. Psychron 67°-50.5° - 28%
" 14 Nov. 8 am 0.03" rain.
" 15 Nov 8 am 0.88" rain.
" 16 Nov. 8 am 0.03" rain.
" 18 Nov. 8:45 am. Foxboro brush 38, open 36, shelter 43; 45 min slow. Friez 41° - 64%
" 20 Nov. 1.56" rain at Reservation gage 8 am
" 24 Nov. 0.41" rain at Reservation gage 8 am
" 25 Nov. Psychron 60°-50°-48% 1^15 pm
Friez 59° 43%
Foxboro (shelter) 61°
" 2 Dec. 9 am. Psychron 55°-44°-38%
Friez 53°-45%
Foxboro (shelter) 54°
— end excerpt. —

Dec. 4. Hastings Reservation, Monterey County. 0750. Checked traps in headquarters area. 0900. Made the rounds of all traps, banded birds + reset traps. Then constructed and installed entrance funnel to the new trap above Davis house. Weather clear and mild all day.

Journal.

Dec. 5. Hastings Reservation, Monterey Co.

Checked and serviced traps in the morning beginning at 0750. Since there was still no sign of use of the trap near the pump and water tank, I relocated it in quail hollow 50 paces up from trap Q (at the base of the large Ceanothus); baited + set this trap.

Weather this morning 9/10 thin cirrus, about 4/10 AC-AS; gradually increased to overcast by 1230, still thin enough to see the sun's disc.

From 1300 to 1400 I again made a round of the traps, + banded the 18 quail in trap B-1. By 1500 the overcast could be seen to be a band of cloud moving eastward, and by 1530 only 1/10 sky cover remained.

Dec. 6. Hastings Reservation, Monterey Co.

0750 Weather bright and sunny but with very thin cirrus overcast with breaks; later a heavier band of AS moved over, clearing entirely by 1400.

The two traps near the reservation gate are apparently quite

Journal.

Dec. 6. Hastings Reservation, Monterey County.
useless, quail formerly in this area having moved out with the fall rains, I expect. Yesterday I relocated one of these on the road from the Bell house to the barn, near the thicket sometimes used as cover. Today I returned the other trap to the barn.
During the day I serviced the traps at irregular intervals. Quail not much in evidence until evening.

Dec. 7. Hastings Reservation, Monterey County. Unset all traps; relocated the one in front of the White house to Quail Hollow; and removed and packed up the new trap I had brought down. Left the Reservation at 0920, mileage 48385, and arrived in Berkeley at 1309, mileage 48535. Total trip mileage 312.

Dec. 9. Strawberry Canyon, Alameda County.
0825 Serviced weather instruments in the Behavior hab. pen, scattered one can of grain + prebaited 3 areas outside of the pen for future trapping.

Journal.

Dec. 11. Strawberry Canyon, Alameda County.

0815 Weather at Behavior Lab. pen: Clear skies, cold + crisp, moderate wind with moderate turbulence. Spread 1 can of grain in the pen, mostly in D-3,4. Pre-baited areas outside of the pen showed little or no signs of use, one apparently used a little by sparrows. Prebaited 2 other areas outside the Behavior Lab. 0850. Wind stronger and more turbulent.

Dec. 13. Strawberry Canyon, Alameda County.

0845. Weather at Behavior Lab. pen: clear + cold, light to moderate wind locally with moderate turbulence; strong wind in exposed locations. Scattered one can of grain in the pen. Then checked pre-baited areas outside - some use evident in two spots near population pens, almost all grain eaten in clearing below there, and all gone at the edge of Baccharis patch near recently bulldozed road bed. 0945 Set up folding trap in the pen, closed the entrance + set two mouse-traps inside.

Journal.

Dec. 15. Strawberry Canyon, Alameda County.
1650. Set and baited trap for quail at the edge of Baccharis patch to west of the Behavior Lab. Weather fair & cold, 5/10 thin Cirrus, nearly calm.

Dec. 16 Strawberry Canyon, Alameda County.
0900 checked trap in Baccharis area, no birds; grain outside partly eaten presumably by sparrows. 0930 Serviced weather instruments in the pen. Weather nearly clear, 1/10 thin cirrus, very light wind without turbulence.
1630 Completed construction of new trap, set it up, set and baited inside Behavior Lab below population pens. Also checked trap outside — no birds, no grain eaten inside. Also saw a house cat prowling the area.

Dec. 17. Strawberry Canyon, Alameda County.
0910 Weather at Behavior Lab. clear, moderate wind with slight turbulence. Red-tailed Hawk soaring near Grizzly Peak. checked traps.

Journal.

Dec. 18. Strawberry Canyon, Alameda County.
0900. Checked traps, no quail; none were seen or heard in the area.

Dec. 19. Strawberry Canyon, Alameda County.
0930 Serviced rain gage in Behavior Lab. pen. Weather: light rain and drizzle, sky obscured in cloud + fog in canyon hollows very light wind with no turbulence. Ground surface saturated. Visibility variable 100 yards to 1/2 mile. Checked traps, no quail. In the trap inside the Behavior Lab. were a number of feathers in one corner - appeared to be from an Acorn Woodpecker, but no signs of other remains - perhaps a hawk used the trap as a perch while plucking a victim. Spread a can of grain in the pen.

Dec. 20. Strawberry Canyon Alameda County.
0920. Weather at Behavior Lab. obscured in stratus covering the whole bay area, no definitive base. Light drizzle, visibility 100 yards in canyons, better along ridges. Light wind with no turbulence. Serviced rain gage and spread a can of grain inside the pen.

Journal.

Dec. 20. Strawberry Canyon, Alameda County.
1535. Checked the trap in the Behavior Lab. No quail, but feathers of a presumed victim of a hawk just outside the trap - appeared to be Brown Towhee. A Sparrow Hawk was noted making ~~a~~ a pass at birds in this area two days ago.

Dec. 21. Strawberry Canyon, Alameda Co.
1330. Checked traps, no quail. Black and white cat stalking trap in the Behavior Lab.
1630 Checked traps again, empty. Weather today partly cloudy, with morning cloud and mist, broken high clouds during the day. Light to moderate winds, not as cold as recently.

Dec. 22. Strawberry Canyon, Alameda County
1030 Checked traps, no quail. Weather fair, thin Cirrus clouds, good visibility. Strong turbulent easterly wind.
1600. Serviced traps, banded quail in trap outside the Behavior Lab.

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Dec. 23. Strawberry Canyon, Alameda Co.
1045 at Behavior Lab, weather clear, moderate to fresh NE wind with moderate turbulence. Removed trap in the Behavior Lab. (a dead P. erythrophthalmus in this one) to inside the pen where I blocked the entrance and set two mouse traps. Serviced weather instruments. 1010 Checked site of trap outside the Behavior Lab. and found the trap missing. Baited the area with 3/4 can of grain.

Dec. 27. Strawberry Canyon, Alameda Co.
0930 Fed quail in the Behavior Lab. pen with 2 cans of grain - enough to last until return from field trip. Picked up tape recorder for Laidlaw Williams from Dr. Marler. Left at 1015 for Hastings Reservation, mileage 49147, after picking up shotgun + box of shells at MVZ. Arrived at Hastings Natural History Reservation, Monterey County at 15:30. Set and baited 3 traps in Quail Hollow and 2 near Bell house. (Mileage 49293). Noted much fresh bobcat sign. Left tape recorder with Jim Bell.

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Dec. 27. Hastings Reservation, Monterey Co.
Excerpts from K. White weather log:
"9 Dec. Foxboro shelter 46° Friez 44°
"10 Dec. rain gage overflowing. 1.10"
recorded at house.
"16 Dec. Foxboro shelter 52, Friez 50°,
68%. Psychron 52° - 47°.
"23 Dec. Foxboro shelter 56, Friez 55° -
30%. Psychron 52° - 41.5°. -"
End excerpt.

Dec. 28. Hastings Reservation, Monterey Co.
0730 Serviced traps & banded quail in them. Left for McMillan ranch in San Luis Obispo County at 0900, arriving at 1200, to join in picnic-quail hunt with a large party including Don, Ian, & Bub McMillan, C.T. Bndeman, Jim Ingalls (sp?), the Flaggs, a Mr. Thompson, and several wives with a sumptuous spread of food. After an hour or so shooting after lunch, had coffee & conversation at Ian's ranch house and left for Hastings again at 1645. Arrived about 1945 (mileage 49538). Checked traps (no quail) and rebaited.

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Dec. 29. Hastings Reservation, Monterey Co.

0800 Checked + rebaited traps.
0940. Left for Hunter-Liggett Military Reservation, arriving there at 1105, mileage 49594.
Weather this morning overcast AS at 800 feet (est.) with occasional thin spots, thinning out by 1130 to hazy sunlight, clearer to the west. Light winds, rather warm.
1420 Sky again covered with fairly thick AS, few lighter spots. Checked quail in hunter's bags until 1740, then left for Hastings Reservation, arriving 1910. No quail in traps in my absence.
Noted telephone numbers as follows.

Hastings Res. Office - Area Code 408, 659-2664
Davis 659 - 2672
White 659 - 2670
Bell 659 - 2667
Hunter Liggett: 408 - 385 - 3216.

Dec. 30. Hastings Reservation, Monterey Co.

0830 Checked traps - no quail but more fresh bobcat scats. 0920 Serviced weather instruments, and checked against Psychrom:

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Dec. 30. Hastings Reservation, Monterey County.

Friez (shelter) 59° 36%; Psych. 61°-46°-27%; Purple probe 60°.
Foxboro Red (open) 56½; Psych. 59°
" Blue (shrub) 54½; Psych 59½°
(Sunshine on grass & shelter may give poorly representative temperatures).
Weather: overcast thin Cirrus with breaks, light wind, good vsby.
Departed for Berkeley 1155 via Santa Cruz, mileage 49650; arrived home at 1620, mileage 49817. Overall trip mileage 670 miles. Chargeable to grant 414 mi. @ 7¢, cost 28.98.

Dec. 31. Strawberry Canyon, Alameda County.

1020. Serviced instruments in Behavior Lab. pen. Baited and set walk-in trap in the pen. Weather clear, moderate to fresh northeasterly wind with moderate turbulence.

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Jan. 2. Strawberry Canyon, Alameda County, California. Animal Behavior Laboratory on Grizzly Peak Blvd. Serviced rain gage in the quail enclosure, baited trap with 1 can of chick chow, inside the pen. Last night's rain 0.07". Weather clear, very light wind, excellent visibility.
1615 Serviced trap & left unset.

Jan. 6. Strawberry Canyon, Alameda County.
0825 Weather at Behavior Lab. overcast AC and AS with breaks, lowest layer estimated at 600 feet; good visibility. Very light wind, no turbulence. Noted that the tips of the grass in the quail enclosure is turning yellow, either from cold or dryness. Serviced weather instruments and scattered one can of grain in and around the unset trap in the pen. Left station at 0900.

Jan. 7. Strawberry Canyon, Alameda Co.
0945 At Behavior Lab. pen. Weather clear, light wind locally with moderate turbulence; fresh northerly winds in exposed locations. Serviced rain gage. Removed trap from

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Jan. 7. Strawberry Canyon Alameda Co.

inside the pen, and reset it in the open grassy area next to brush inside the Behavior lab. fence near the west gate.

Jan 8. Strawberry Canyon, Alameda County

1045 Set up new 3' × 5' trap in the edge of the baccharis patch west of the Behavior lab, left the trap unset and baited the area around with ½ can of "chick chow". Cut down some of the taller weeds in the center of the pen.
Weather: 9/10 Cirrus clouds, in a few spots dense enough to obscure the bright disk of the sun. Light wind with little turbulence. Left station at 1110.
1615. Checked traps: all grain eaten in and around the new trap & a covey of about 30 seen foraging nearby. Set and re-baited this trap.

Jan. 9. Strawberry Canyon Alameda County

0815. Serviced trap (12 birds), reset and rebaited. Weather overcast ST and AS, light wind, no turbulence.

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Jan. 10. Strawberry Canyon, Alameda Co.

0840 At Behavior Lab. pen. Weather nearly clear, 1/10 Ci in southeast quadrant, cold + still damp from last nights rain (0.07"). Some frost on vegetation tips in the pen. Serviced rain gage and traps.

Jan. 11. Strawberry Canyon, Alameda County.

1035. Serviced traps. Left them unset, but baited the area when a second check at 1600 found no birds.

Jan. 13. Strawberry Canyon, Alameda Co.

0825. Serviced instruments in the Behavior Lab. pen. Weather overcast with occasional breaks AC and AS; continuous layer of AS est. at 10,000 feet, variable lower clouds, vegetation dry; haze over the bay. Very light wind with no turbulence. Visited the two traps rebaited and left them unset. All bait was eaten around the trap inside the Behavior Station, a small portion remained inside the trap outside. Scattered one full can of grain ~~inside~~ the pen. Left the station at 0915. The water

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Jan. 13, Strawberry Canyon, Alameda Co.
hole in the pen is now quite dry, and the tops of grass still somewhat yellow - however there is still plenty of greenery and I did not refill the water hole.

Jan. 14. Strawberry Canyon Alameda County.
0900 Serviced rain gage in Behavior Lab. pen (0.23" since 1600 yesterday). Weather clear with excellent visibility, light to moderate northerly winds with slight turbulence. Rebaited and set the two traps in the same locations: #1 just inside Behavior Station near the west gate; #2 within the Baccharis brush over the hill toward the Rad. Lab., west of the Behavior Station. Bait around both traps was completely eaten. Ground is wet and bare clay very gummy; frost on low vegetation and rocks in shadow; vegetation in the sunshine still wet.

Jan. 15. Strawberry Canyon, Alameda County
0825 - 0925 Serviced traps (25 quail), set and rebaited. Left trap-

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Jan. 15. Strawberry Canyon, Alameda Co.
#2 covered with burlap over the top to test effect on feeding birds.
Weather clear, light wind with slight turbulence.

Jan. 16. Strawberry Canyon, Alameda County
0910 Serviced traps; #2 with the burlap covering was empty, with grain all around the outside completely eaten, that inside untouched. Left both traps ~~—~~ set and uncovered. Installed screw hooks in the observation hut of the pen to suspend grain out of reach of mice - I hope! Left the station at 1015. Weather thick ~~1610 Serviced~~ overcast ST and SC light wind, slight turbulence.
1610 Serviced traps. Light drizzle just beginning from solid ST overcast, becoming heavy drizzle as I left the station.

Jan. 17. Strawberry Canyon, Alameda Co.
0835 Weather at Animal Behavior Lab: obscured in low ST covering the station with base about 200 feet below the station. Calm, visibility 150 yards.

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Jan. 17. Strawberry Canyon, Alameda Co.

0900 Serviced trap #1, and rain gage in the pen (0.18"). Scattered one can of grain in the pen. 1610. Serviced traps, then left both open, unset, unbaited. Weather: intermittent light drizzle from ST overcast, fresh winds with moderate turbulence.

Jan. 18. Strawberry Canyon, Alameda County.

1040. Serviced rain gage (0.52"). Weather overcast Cu & Sc, with shower beginning, moving in from the South. Moderate wind, slight turbulence. Removed both traps. By the time these were loaded at 1120, shower was ended, sky 7/10 broken up Sc and some Ac, clearing rapidly from the west.

Jan. 19. Strawberry Canyon, Alameda County.

1300 Serviced rain gage in Behavior Lab. pen (0.69"). Weather obscured in ST overcast, with base est. 400' below the station; light drizzle. Wind light with slight turbulence to fresh with moderate gusts, westerly; stronger in exposed parts of area.

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Jan. 19. Strawberry Canyon, Alameda County.
Scattered a can of feed in areas A2, and D2-4. Visibility quite variable, less than 50 yards in the pen.

Jan. 20. Strawberry Canyon, Alameda County.
0905. Weather at Behavioral. pen overcast ST, strong southerly winds with moderate turbulence. Ground & vegetation wet from previous rain. Good visibility below cloud layer. Serviced instruments; rain gage 0.42" Scattered another can of feed, and left the station at 0930.

Jan. 21. Strawberry Canyon, Alameda County.
1000 Serviced rain gage (3."-). Weather overcast SC, ST and AS through breaks in low clouds. Wind fresh with considerable turbulence. Ground very wet after heavy rain last night. Scattered one can of grain.

Jan. 22. Strawberry Canyon, Alameda County.
0900. Serviced rain gage (0.85").
Weather 9/10 Cu and SC, with some low ST in canyon slopes, calm, visibility good except in cloud. Some accum-

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Jan. 22. Strawberry Canyon, Alameda County

Isolated hail patches from yesterday and last night's thunderstorms still remaining in the ground, with the temperature near freezing. Spread 3 cans of grain to last until I return from field trip. On leaving the station at 0935, sky had cleared to 4/10 fragmentary Cu, bright sunshine.

Jan. 23. Berkeley, Alameda County.

0930 Left home for trip to Mc Millan Ranch; mileage 50246. Stopped at Behavior Lab. pen to service rain gage, and finally left the University at 1025, mileage 50256.

1520 Arrived at McMillan Ranch, San Luis Obispo County, mileage 50496. Set up my two traps in the "Old House Covey" area, set + baited them. Set up and baited a trap of McMillan in back of ranch house. In about ½ hour, took and banded 41 quail in the latter, then left unset for the night.

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Jan 24. McMillan Ranch, San Luis Obispo Co.

0645. Heard quail in artificial roost near the ranch house, & saw them leave, flying in a bunch at the same time, not many remaining. Set the trap in the back of the ranch house, no results during breakfast. 0800 Moved this trap behind brush pile near the edge of the gully and re-baited and set, then checked traps at the Old House, and relocated the large trap next to the old granary cistern, inside the enclosed area.
1530 to 1615 Banded 42 quail plus 3 recaptures in McMillan's trap in back of ranch house - catch #3.
1630 to 1650 Serviced traps near old granary - 7 birds, catch #4. Relocated smaller trap inside the old cistern. Left these two set.

Jan. 25. McMillan Ranch, San Luis Obispo Co.

0845 Serviced trap in back of ranch house - 22 birds including 3 recaptures, catch #5. Then checked traps near old granary - two birds recaptured, catch #6.

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Jan. 25. McMillan Ranch, San Luis Obispo Co.

1300. Relocated trap from back of ranch house to flat near gully by old house. Adjusted and rebaited the two traps by the old granary. 1400. Checked Hygrothermograph against Psychron: H.G. - 56° - 50%, Psychron 54½° - 54%.
1625 Serviced traps at old granary. Moved 2'×4' trap across ravine to path to roost at old house; re-baited this and the trap near gully.

Jan. 26. McMillan Ranch, San Luis Obispo Co.

0830 Checked traps - all empty.
0940 Left Ranch for home, mileage 50508, and arrived in Berkeley (via San Antonio Mission and HLMR) at 1540, mileage 50759. Overall trip mileage 513 mi. ($35.90 @ 7¢ per mile).

Jan. 27. Strawberry Canyon, Alameda County.

0850 Weather at Behavior Lab. pen-overcast SC, est. 6000', with breaks. Low layer of ST below station, to near-station level, about 500' thick. Calm. Visibility 6 miles except in cloud.

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Jan. 27. Strawberry Canyon, Alameda Co.
Serviced rain gage (0.01") and other weather instruments. Spread one can of chick chow plus one can of grain gleanings brought up from McMillan's.

Jan. 29. Strawberry Canyon, Alameda County. 1000 Weather: overcast SC with breaks, est. at 8000'; lower ST over hills & bay, variable density. Calm, visibility 1 mile. Scattered two cans of grain.

Feb. 2. Strawberry Canyon, Alameda County.
1255. Serviced rain gage (0.07"). Weather: thin AS ovcst with breaks, moderate to fresh wind, moderate turbulence. Ground & vegetation dry in sunshine; free water gone from water hole, but damp sediment still remaining. 1305 sky clearing in the NE.

Feb. 3. Strawberry Canyon, Alameda County.
0840 Weather clear, fresh easterly wind, moderate turbulence, exceptional visibility. Serviced weather instruments, scattered one can of

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Feb. 3. Strawberry Canyon, Alameda County

grain, and set two mouse traps inside the closed + unset wire trap inside the Behavior lab. pen. Left station at 0900.

Feb. 6. Strawberry Canyon, Alameda County

0920 Weather clear, fresh northerly winds with moderate turbulence, exceptional visibility. Reset mouse traps in Behavior lab. pen, one *Microtus* taken. Scattered two cans of feed for quail.

Feb. 10. Strawberry Canyon, Alameda County.

0900 Weather at Behavior Lab. clear, light wind with slight turbulence. Visibility reduced by haze over the bay, locally unrestricted. Ground + vegetation quite dry, but plants generally still quite green with no wilting. Serviced weather instruments; reset mouse traps. Set up + baited the 3×5 trap in the pen (area D-4).

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Feb. 11. Strawberry Canyon, Alameda Co.

0830 Clear light wind, no turbulence. Released two quail from trap in the Behavior lab. pen + left trap reset.

Feb. 13. Strawberry Canyon, Alameda County.

0920. Weather at Behavior lab. clear, light wind, moderate turbulence. Water still remains in water hole. Reset mouse traps in runways, under wire trap. Set + baited 3' × 5' trap for quail, using "Hen Chow" in place of finer "Chick Chow" more recently used.
1600. Checked trap - no quail.

Feb. 14. Strawberry Canyon, Alameda County.

0915 Weather at Behavior Lab. clear, light wind, no turbulence, exceptional visibility. No quail in the trap in the pen. Reset mouse traps.

Feb. 15. Strawberry Canyon, Alameda County

1400. Weather at Behavior lab. fair clear (after 0.19" rain last night), light to moderate wind, moderate turbulence, excellent visibility. Serviced rain gage & mouse traps - baited with mixture of grease + grain.

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Feb. 16. Strawberry Canyon, Alameda County.

1700 Weather at Behavior Lab. clear, calm, excellent visibility. Set 3×5 trap & baited with ½ can of grain. Reset mouse traps.

Feb. 17. Strawberry Canyon Alameda County.

0930 Weather at Behavior Lab. clear, very light wind with no turbulence, excellent visibility. Serviced traps in the pen, baited & reset (½ can of hen chow in quail 3×5 trap).

Feb. 18. Serviced trap at 1800.

Feb. 19. Strawberry Canyon, Alameda County.

0840 Weather at Behavior Lab. clear with strong & turbulent easterly wind, excellent visibility. No quail in the trap inside the pen.

1730 Weather: very light wind, no turbulence, excellent visibility; noticeably warm. Took no quail in the trap inside the pen. Others all out of sight. Sighted black & white cat just outside the pen fence.

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Feb. 20 Strawberry Canyon Alameda Co.

0850 Weather at Behavior Lab. clear, excellent visibility, strong turbulent easterly wind. Serviced traps. Set box trap for cats just outside the fence of the pen. Left station 0915.

1725. Checked traps, no quail.

Feb. 21. 0850 checked traps, no quail. Weather clear, very light wind with no turbulence, excellent visibility. Water hole is completely dried up but grass + other vegetation quite green. Placed a pan of water in the quail walk-in trap. Mice still very abundant.

Feb. 22 1020. Weather at Behavior Lab. clear, moderate wind with slight turbulance. No quail in trap in the pen, so re-located it in area E-10 between roosting eucalyptus and dead brush in the corner. Baited with 3/4 can of grain and a pan of water. The water hole in the center of the pen is quite dry.

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<u>Feb. 23. Strawberry Canyon, Alameda County.</u>
1200 Checked traps in Behavior Lab pen, no results. Reset, sinking the water pan flush with the ground and weighting it with a rock.

<u>Feb. 24. Strawberry Canyon, Alameda County.</u>
0920 Weather at Behavior Lab. overcast ST, base about 200 ft. above station light wind with slight turbulence, visibility about 5 miles. Serviced traps and weather instruments.

<u>Feb. 25.</u> 1210. Serviced traps, then removed large quail trap from the Behavior Lab. pen, reset mousetraps. Spread 1 can of grain in areas A3 - A4 - and D-4, and filled the water hole. Weather clear, moderate wind with slight turbulence. Left station 1250.

<u>Feb. 27. Wildcat Canyon, Contra Costa County.</u>
0920 to 1100 made trip up eastern branch of Wildcat Canyon almost to the road on San Pablo ridge, returned on the opposite side of this branch. Weather clear, moderate easterly wind rather cool.

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March 2. Strawberry Canyon, Alameda Co.

0905. Weather at Behavior Lab. clear, good visibility, moderate northerly wind with moderate turbulence. Serviced instruments 0910, rain gage 0.56". Scattered one can of grain, reset mouse traps.

March 4. 1040. Replenished food and water & reset mouse traps in the Behavior Lab. pen. Weather clear and warm, moderate wind with slight turbulence.

1333. Left Berkeley (Univ. and Sacramento), mileage 51792. Stopped in Gilroy to replace gasoline filter, and arrived at Hastings Natural History Reservation, Carmel Valley, Monterey County at 1930, mileage 51934.

March 5. Hastings Reservation, Monterey Co.

0720 Weather overcast with breaks, low Sc topping surrounding hills, light wind without turbulence. 0730 Noted a pair of Marsh Hawks (?) over grassy west slope. Made a circuit of usual quail covey locations around the headquarters

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March 5, Hastings Reservation, Monterey County

area, but saw none, and got no replies to artificial quail call. Returned for breakfast at 0830. (Later discussion with Gary Tramper makes it probable that presumed "Marsh Hawks" were in fact White-tailed Kites, which have been seen recently here).

1030. Started up the creek from the headquarters area. Weather cleared to 7/10 cu, moderate westerly wind with slight to moderate turbulence. Creek is entirely dry, even though we are toward the end of the rainy season. I followed the creek a little beyond the second fork, keeping to the right branch both times. At best the creek bed was slightly moist with some fresh green vegetation. By 1110, sky had cleared to variable (1 to 4/10) cu. Returned to h.q. area at 1225, and serviced traps (released 5 Scrub Jays & one imm. Golden-crown in Quail Hollow).

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March 5, Hastings Reservation, Monterey Co.

Excerpts from K. White weather log:
"21 Jan. 1964 Rain gauge at house 1.60 at 8 am.
"22 Jan. 1964 Rain gauge at house 1.08
"23 Jan. 1964 Rain gauge at house .59
"24 Jan. 1964 Rain gauge at house .02
"3 Feb. 1964 Mon. 12 noon. Chart stuck – no record other than max. & min. for week." [Refers to Foxboro].
End excerpt.

1645 Psychron checks:
46½-41-63% H.G. : 46° - 60%
49½-45-70% Red - 47°
45-41½-75% Blue - 44°
46½-41-63% Purple - 47°

March 6. 0710 Weather overcast ST and SC, light winds, intermittent light drizzle. Made a circuit of the area but no sign of quail. A hawk was chasing sparrows on the hillside, and fresh bobcat (?) droppings seen on the hill above the Davis house. Returned at 0810. Left Hastings at 0915 (mileage 51934), by way of Jolon to Paso Robles Airport, thence south to Creston and to ~~east~~ west end of Camatti Canyon. Observed quail areas up a side canyon near the pine

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March 6. San Juan Canyon, San Luis Obispo County: tree with Golden Eagles nest, just before coming into cultivated part of the canyon. Thence to McMillan Ranch, arriving 1353, (mileage 52088). A well developed thunderstorm was located to the west about 1300, but San Juan Creek area had clear skies, with only scattered Cumulus. From 1400 to 1430 looked for quail in the planted brush beyond the Old House, interrupted by a short rainy period. Sky now completely overcast with Cu Nb; apparently a major cold front is bringing a line of showers + thunderstorms. 1730 After only a few light showers, sky nearly clear, some cumulus, brisk west wind. Ended observations. 1900 Psychron check of Friez hygrothermograph: H.G.: 40° - 43% Psychron: 40.5 - 33° - 41%

Excerpts from McMillan Weather log:
"Monday, Feb. 17. Weather cold, bright, dry for some time.
" Evidence of pairing noted in quail of Ranch Covey.
" Plenty green forage for cattle and quail although promise of more growth is not evident.

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March 6. McMillan Ranch, San Luis Obispo County.

"Weather of February extremely different than cloudy, humid conditions same time last ~~year~~ season".

"Thurs. Feb. 27. Instrument evidently was not wound in last change of charts.

"I will say this may be another 1951 for the quail".

"Monday, March 2. ... .08 of rain in guage from storm that passed through area during previous two-day period."

— end excerpt —

March 7. Unable to get up before noon with stomach upset + headache — finally made it and left for Hastings about 1:30 p.m.; mileage 52096. The distance from Jolon road above Bradley to King City was 34 miles, time 35 minutes — slightly longer time than the 4 miles longer by way of Jolon. 1617 Arrived at Hastings Reservation, Monterey County, at 1617. Reset and baited the two quail traps near the Bell house. Weather has varied rapidly from clear + cold with northwest wind to cloudy, then overcast early this

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March 7. Hastings Reservation, Monterey County.
morning, and thunder, hail, and a snow flurry about noon, then clearing to scattered cumulus, and entirely clear at Hastings on arrival. Wind shifted to southerly just before leaving Mc-Millans, perhaps local shower wind.

March 8. Weather at 0640 clear, very light down-canyon wind, small amount of frost on ground but frozen quite hard. 0655 Psychron reading on the ground (bulb 3" high) 23½°, with frozen wet bulb. No signs of quail this morning. Serviced instruments, removed and stored all traps, and left for Berkeley at 1042, mileage 52218. Arrived Berkeley 1358, mileage 52362

1725 Strawberry Canyon, Alameda County
Commenced observing in Behavior lab pen after scattering ½ can of grain, filling water hole, and checking rain gage.

March 9. Weather at Behavior lab. pen at 0910: ST, with base 300' below station obscuring sky; light intermittent drizzle; light wind with

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March 9, Strawberry Canyon, Alameda County
no turbulence. Serviced instruments at 0925, & scattered one full can of grain. 0955 Checked weather at Inspiration Point on San Pablo Ridge: overcast, but much thinner, more water on pavement indicating a much greater precipitation.

March 10. 0900 Weather at Behavior Lab. clear, very light wind, no turbulence. Set 30 live-traps for mice inside the pen.
1700 Weather the same except for high Ci increasing. Serviced the live-traps, observed quail from 1720 until

March 11. 1715. Weather at Behavior Lab, overcast with Sc, As. threatening rain, wind fresh with strong turbulence. Serviced mouse traps (11 Microtus and Reithrodontomys) and reset.

March 12. 0825 Weather overcast As with occasional breaks, calm, good visby. Serviced rain gauge (0.56") and traps. Took one shrew in addition to usual mice.

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March 13. Strawberry Canyon Alameda County.
0915 Weather at Behavior Lab. clearing with 3/10 CU, light northerly wind, good visibility. Serviced rain gage (0.10") and mouse traps in the pen (7 mice, 2 shrews).

March 14. 1015 Weather at Behavior Lab. clear, light wind, slight turbulence, visibility reduced to 5 miles in haze. Serviced mouse traps. 1040. Scattered 1/2 can of grain.

March 15. 1700 Weather at Behavior Lab. clear, light wind with slight turbulence, good visibility. Serviced mouse traps (11 mice, 2 shrews) (+1 shrew)

March 16. 0915 Weather clear, fresh NE wind with moderate turbulence, excellent visibility. Serviced mouse traps (8 mice, 1 shrew). Only two of the mice were full grown Microtus, others half-grown young. Serviced instruments 1000, ended Foxboro Record. 1025 Kodachrome 35 mm. looking north in pen to Psychron case in C-4; 1/25, f.11, 25 feet.

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March 17. Strawberry Canyon, Alameda County
1500. Serviced traps at the Behavior Lab. 18 mice (mostly small *Microtus*) and 1 cat in trap outside the pen. Weather clear, light wind, slight turbulence. Placed Foxboro probes in ice-bath for calibration.
1552 Completed replacing traps, 6 each in areas A-1 through E-1, covering the upper 1/10 of the pen. Scattered 1/2 can of grain.

March 18. 1220 Serviced trap - 4 mice only. Reset traps 6 each in A2 to E2. Removed dead cat from box trap, took to Ward Russell in MVZ.

March 19. 1430 Serviced traps, 7 mice; reset in areas A-3 to E-3. Removed large instrument shelter + returned with the Foxboro instrument to Ent. ~~+ [illegible]~~ dept. (George Tamaki)

March 20. Vernal equinox. Weather at Behavior Lab. overcast CU, threatening showers; moderate to fresh westerly winds with strong turbulence. 1345 Serviced traps, 8 mice, one song-sparrow. Reset in areas A4 to E4.

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March 21. Strawberry Canyon, Alameda County. 1035 At Behavior Lab. pen, serviced mouse traps (13 mice, only 3 *Microtus*) and reset in A-5 to E-5. Reset box trap for cats outside the pen. Weather: variable sky cover averaging 8/10 Cu and Cu Nb, with showers all around the area; brief shower ended locally shortly before I arrived at the pen, only few scattered drops until leaving at 1155.

1805. Commenced observations in the Behavior Lab. pen. Weather cloudy with 9/10 Cu and Sc, light wind with slight turbulence; sun on tops of surrounding trees briefly, all in shadow at 1811.

March 22. 1405 At Behavior Lab. pen. Weather: obscured in clouds with base about 200' below station, visibility 150 yards, light wind with no turbulence. Moderate to heavy rain from early morning until about 1330, with numerous showers still in the area. Serviced traps (11 *Microtus*, 1 *Sorex*) and

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March 22, Strawberry Canyon, Alameda Co.
reset in areas A-6 to E-6. 1425
clouds breaking + visibility improved,
moderate wind gusts, Cu and CuNb
clouds with few breaks. Left station
at 1505 after short observation period
with no activity of birds in the pen.

March 23. 0830 Weather at Behavior Lab.
overcast SC and CU at est. 4000', few
breaks over the coast, good visibility,
very light wind. Serviced traps (3
Microtus, 1 Sorex) and reset in
the same area. Ground + vegetation
still very wet from previous precipitation.

March 24. 0845 Weather at Behavior Lab.
partly cloudy, 6/10 Cu (variable), light
to moderate wind with slight turbulence.
Serviced rain gage (0.05") and traps,
and reset traps in A7 - E7. Big
Yellow cat escaped from trap when
door released as I was stuffing the
crack.

March 25. 1700 Weather at Behavior Lab.
clear, light wind, no turbulence. Serviced
mouse traps (6 Microtus), and left un-
sprung traps in place. 1712 Began

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March 25. Strawberry Canyon Alameda County - observation of quail in the pen from the hut. - no disturbance made after this time. 1807. Moon about 2 days short of full now visible above the tops of the tallest surrounding trees.

March 26. 1700 Serviced traps and reset all in areas A-8 to E-8, except 3 around D-4 feeding area.

March 27. 1600 Serviced traps (5 small Microtus) and reset in A-9 to E-9. Set cat trap outside the pen, and two snap-traps inside the observation hut.

March 28. 1530 Serviced traps (2 mice) and reset in A-10 to E-10, plus 1 in D-4 and 3 in [illegible] C-1

March 29. 1630. Serviced traps (4 mice), and reset 26 in various areas as a last effort to reduce the population

March 30. 0840 Weather at Bubaria Lab. overcast with high thin As, good visibility, light wind with no turbulence. Serviced traps (7 mice) and removed traps from pen.

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March 30. Strawberry Canyon, Alameda County.

0900 Serviced hygrothermograph and rain gage, flushed & ~~ann~~ filled water hole. [Total catch from March 10 to date about 150 mice (Microtus and Reithrodontomys) and 10 Sorex.]

April 1. Weather at Behavior Lab. overcast with occasl breaks in variable CU, showers all around. Moderate NW wind with slight turbulence. Serviced rain gauge at 0915 (0.35").

April 5. Weather at Behavior Lab at 1720: clear, moderate winds with slight turbulence. Scattered ½ can of grain.

April 6. 0905 Weather at the Behavior Lab. clear, light to moderate wind with moderate turbulence. Serviced hygrothermograph.

April 8. 0930 Cleared grass in the center of the Behavior Lab. pen with a Mott "mop" mower courtesy of U.C. grounds & buildings, who provided mower and operator. Weather clear, warm and Springlike.

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April 8. Enroute Berkeley to Hastings Reservation, Monterey County. Left U.C. at 1528, mileage 53168; stopped 15 minutes in Gilroy for gas and groceries, and reached Hastings at about 1910, mileage 53311. Took quarters in the bunk-house.

April 9. Hastings Reservation, Monterey County. 0615 Weather, light easterly wind, no turbulence; excellent visibility; grass in open fields moderately wet with dew, very few small frost patches. Checked headquarters area for quail

During the day dismantled the weather station on the hillside, after calibrating the 3 Foxboro probes in ice bath, shade, and sunshine. Stored the small shelter in the barn; large shelter + instruments to be returned to the Entomology dept. at Berkeley.

1710 A careful survey of usual quail foraging + roosting areas, until 1640, gave completely negative results, not even any distant sounds of quail being heard.

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April 10. Hastings Reservation, Monterey County.

0630 Made morning survey of local area for quail.
0815 Left Hastings for McMillan's, via Hunter Liggett Military Reservation, where I made a road survey of Argyle Road + Bear Trap loop areas. Mr. Fred Cook has left here to work with the Fish + Wildlife Service in Fort Worth Texas, his successor has not arrived. 1315 Gassed at Paso Robles mi. 53442. Arrived at McMillan Ranch at 1415, picked up weather charts + took following from McMillan weather log:

"Friday, March 20. Cow calls heard this morning. Quail pairing. Isolated pairs seen as of nesting.

"Saturday, March 28. The annual growth ... has prolonged from the recent rain. North facing slopes are still in condition to produce a normal annual growth. Filaree is blooming.... Cow calls have been heard. Pairing is now the rule ... quail at ranch house are not coming to feed in yard....

"Wednesday, April 1. ...56 of an inch is radically changing.... drought."

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April 10. McMillan Ranch, San Luis Obispo Co.

1700 after some discussion with Dan, examined the pasture where many quail were feeding. Grass was sparse & dried but the ground covered with small but lush Erodium, some flowering, many seeded. This food concentration is obviously far in excess of the quail requirements and is in contrast to the un-grazed ~~enclosure~~ with taller grasses either wholly or partially dried, and no Erodium - also no quail feeding there. 1705 Drove over ranch roads to check old-house, trees, & willows coveys, and thence down Gillis Canyon road en route to Hastings. 1752 at San Juan road, mileage 53494. Arrived Hastings about 2030, mileage 53617.

April 11. Hastings Reservation, Monterey County.

Early morning field trip 0615 to 0728 locating and observing quail in the headquarters area. Weather clear, light easterly wind, moderate dew on grass. Packed up, including weather instruments to be returned,

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April 11. Hastings Reservation, Monterey County.

and drove back up toward Calhoun's to check possible scavengers at deer carcass noted yesterday — nothing there, a turkey vulture seen soaring nearby. Returned and took departure from Hastings gate at 0945, mileage 53624, and returned to Berkeley via Monterey and Santa Cruz, arriving home at 1427, mileage 53784. Total trip mileage - 616.

April 13. Strawberry Canyon, Alameda County

1000 Weather at Behavior Lab clear, light wind, no turbulence, no dew at this time. Serviced instruments, spread 1 can of grain, and filled water hole. Then walked over brush + fields outside the Behavior Lab to the north until 1055, and left the station at 1105.

1800 Observed quail in the Behavior Lab. pen until 1858.

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April 25, Saturday. Strawberry Canyon, Alameda County. Pen in the Behavior Lab. was not visited due to illness in last 12 days. Serviced instruments - hygrothermograph had stopped Wed. afternoon with loss of 3 days record. At 1600 scattered one can of grain and filled water hole, which was dry. Weather clear, light wind, slight turbulence. Vegetation still growing well, although recent showers brought only slight rain (0.03" in the rain gage today). Several thistles flowering at 3' height, but grasses much predominant.

April 26. Changed to Pacific Daylight Saving time today. 1909 at Behavior Lab pen, weather clear & calm, water remains in water hole. Sun remains on surrounding trees, but pen structure completely in the shade.

April 29. Weather at Behavior Lab. locally overcast with thick stratus covering the hills, base 1000' above station. Moderate to fresh winds with moderate turbulence, generally southerly direction here.

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April 29. Strawberry Canyon, Alameda County.

Pronounced fog-drip with ground cover quite wet under eucalyptus, open grass sometimes quite dry. At 0925, after walking through area to the west of the Behavior Lab., scattered one can of grain and filled the water hole in the pen.

May 1. 1255 Weather at Behavior Lab. Variable CU averaging 7/10, moderate to fresh westerly winds, moderate turbulence. Serviced rain gage + scattered another can of grain. (Rain 0.08")

May 4. 1055 Weather at Behavior Lab. Cloudy with 9/10 CU, light to moderate southerly wind, moderate turbulence; occnl showers last 36 hours. (Rain 0.17")

May 6. 1850 At Behavior Lab. pen, sunshine still over half the top of the pen, ground surface entirely in shadow. Weather 2/10 AS and CI, light SW'ly wind with slight turbulence, good visibility. Scattered a can of grain and filled water-hole, commenced observing from the hut at 1855.

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May 13. Strawberry Canyon, Alameda County -

1005 Weather at Behavior Lab. pen: station obscured in ST cloud with base 300 below station, visibility 50-75 yards; moderate westerly wind with moderate turbulence. Heavy fog drip from eucalyptus and tops of vegetation wet with intercepted moisture. Vegetation in the pen green + vigorous - almost lush, grasses and thistles predominating. Uncut grasses up to 4 feet tall and seeded out, thistles and other composites flowering. 1025. Serviced instruments, filled water hole, and scattered one can of grain. Dug out dust baths - ground is very hard + compact, although trace of moisture evident in clods 4-6" deep. Clay clods would not break up under the shovel. Tried out hand lawn-mower on the grass with completely negative results.

May 17. 1255 at Behavior Lab. pen, weather partly cloudy with 7/10 CU, light southerly winds with only slight turbulence. Grass is largely headed out, and very tall, al-

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May 17. Strawberry Canyon, Alameda Co.

though not very thick. Up to 5 feet tall where undisturbed, 1½ to 2 feet in areas which were cleared on April 8. Serviced rain gage (0.17"), filled water hole, and spread a full can of grain.

Small birds noted inside the pen: House Finch, Song Sparrow, Oregon Junco, American Goldfinch.

1452. Left the station.

May 18 0905 Weather at Behavior Lab. pen: obscured in thick stratus, base about 400 feet below station. Very light wind, no turbulence. Visibility 50-75 yards. Vegetation damp, ground surface dry. Serviced hygrothermograph and checked nest. Took samples of the dominant grass inside the pen, and another grass growing just outside (mixed with wild oats Avena fatua), to the Herbarium, where they were identified as Festuca elatior L. (inside the pen), and Bromus rigidus Roth, outside.

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May 19. Strawberry Canyon, Alameda Co.

1210. At Behavior Lab. pen. Weather fair, 4/10 CU (or broken-up ST), light to moderate westerly wind with slight turbulence.

May 20. 0915 At Behavior Lab. pen. Weather overcast ST and SC, few breaks, variable low ST in canyons on west slopes. Intermittent rain during last night + early morning, all vegetation very wet. Very light wind. Serviced rain gage (0.04") + checked nest. In contrast to wet vegetation, only the surface of the soil is wet, and that not much more than dampened.

May 21. 0930 At Behavior Lab. pen, weather ovcst AC with many breaks, very light SW'ly winds. Nest in B-6 unchanged, removed all eggs (including 3 found on ground) to Miwako Tamura, in Behavior Group, to incubate + determine viability.

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May 25. Strawberry Canyon, Alameda County.

0855. At Behavior Lab. pen. Weather clear, visibility good, light winds with moderate turbulence. Filled water hole, spread one can of grain, and serviced instruments. Water hole was completely dried up. Left the station at 0920.

May 26. 1410 Behavior Lab. Weather 8/10 CU, showers last night and today. Light swirly winds, slight turbulence except in showers. Serviced rain gauge (0.02"), refilled water hole. Took sample of herb near two of the quail nests, and checked them at the Jepson Herbarium; identified as Aster chilensis

May 28. 1330. Behavior Lab. Weather overcast CI and CS with breaks, light winds with slight turbulence. Checked rain gage in pen (0.04") Observed from the hut until 1405, then spread a can of grain and refilled the water hole.

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May 30. Strawberry Canyon Alameda Co.
1855. Weather at Behavior Lab. clear, light southerly wind with no turbulence, visibility 5 miles. Spread a can of grain, filled water hole & commenced observations of penned birds at 1907.

May 31. 1145 At Behavior Lab. Weather: obscured in ST cloud over the hills with base variable about 500 feet below station; light southerly wind with slight turbulence; visibility 50-100 yards. Ground wet with fog drip under eucalyptus trees, and taller weeds also wet with intercepted moisture.

June 1. 1000 At Behavior Lab. pen. Weather 1/10 CU and fracto-ST, light to moderate westerly wind, slight turbulence. On approaching the station, a small doe crossed Grizzly Peak Blvd. just ahead of me, then a small fawn, about 15" tall followed - so young as to be a little unsteady on its feet. At the quail pen I saw another doe with a slightly larger fawn just outside the enclosure fence.

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June 1. Strawberry Canyon, Alameda Co.
1040 Serviced instruments, then cleared some grass + thistle to improve observation in the ~~cent~~ center of the pen, until 1055, and commenced observation from the hut. Left the station at 1140.

June 5. 1622 At Behavior Lab. pen. Weather overcast ST cloud with sloping base 50-100 feet above hillsides and covering Grizzly Peak. Moderate SW wind with slight turbulence. Water-hole dry. Filled water hole + spread a can of grain. Noted that dust baths showed clear evidence of use + Serviced rain gauge ([illegible] (.02") , and returned to observation hut 1630.

June 7. 1245 At Behavior Lab. pen. Serviced weather instruments. Spread a can of grain, filled water hole, put out 3 handfuls of pigeon grit. Weather 1/10 CU, light westerly wind with slight turbulence. Loaded equipment for field trip.

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June 8. Berkeley, Calif. Left home for field trip, mileage 54990, stopped at MVZ to pick up note-paper for Ian McMillan, and got underway at 0911, mileage 54998. Arrived at McMillan Ranch, San Luis Obispo County, at 1430. Set up quail traps both front + back of house, + serviced them until 4:30; "active" trap in back of ranch house then unset; the other big brushes in front of the house still set - nothing yet caught in this.

June 9. McMillan Ranch, San Luis Obispo County. 0630 Made a walking road census of quail between ranch house and Old House, until 0720. During the morning dissected yesterday's specimens and improved entrance to quail trap, from which some have escaped. At 1310, to Marion Canyon for observations near springs + barley fields. Noted watch stopped at 1338 - reset to 1410 by guess, and started walking through Marion + Portugee Canyons, until 1510. Took Kodachrome #8 on pasture, 1/50, F.8, 10 ft. Kodachrome II ASA 25; same spot as last year vegetation photo and sample.

Journal.

June 9. McMillan Ranch, San Luis Obispo County.

1523 Returned to ranch house and reset watch to 1555 - add 32 minutes to time since reset by guess. 1600 Serviced trap in front of house. 1745. Took Kodachrome #9, vegetation in front of ranch house, ungrazed by cattle, 1/25, f.8, 8 feet, ASA 25; approx. same spot as last year photo. 1930 to 2020 toured ranch by pickup to note quail distribution and state of vegetation. Filaree (Erodium) growing alongside + often in center strips of all dirt roads - sometimes 8-10 inches in diameter. Other green plants scattered along roadside, although grass is completely dried up + brown (largely Bromus rubens). In the soil bank land north of the ridge, scattered alfalfa has much fresh green growth, and the Atriplex hedges are also putting out fresh new tips; alfalfa is grazed down (deer, rabbits?) on top, but green at bottom + available to quail. Erodium has many fruits and does not show evidence of heavy use. Both soil bank and protected pastures offer fairly thick grass plus brush for

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June 9, McMillan Ranch, San Luis Obispo County.

possible utilization as nesting cover. During this trip we saw about 11 deer, including two forked-horn bucks; with 4 I saw this morning, if no duplication there are 15 on or near the ranch. Several jackrabbits & very numerous cottontails. A pair of horned owls near the adobe ruins.

June 10. Set quail trap in front of house, and removed, examined, & banded quail at 0900. Then rode over to north side of ranch, stopping to examine very luxuriant and freshly fruited *Erodium* in the midst of the soil bank grassland, and alfalfa in the flat meadow across the ridge; the latter is green, with several plants flowering, but the tops browsed off by deer in every case, the amount browsed apparently proportional to the length of stiff dead stems from last years growth. Neither the low-growing alfalfa nor the *Erodium* shows any sign of overuse by quail. Also examined the exclosure above the ranch house

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June 10. McMillan Ranch, San Luis Obispo County.

which has been protected for about 20 years, where Stipa has become well established — this appears to provide ample quail nesting cover.

I dismantled the weather station and loaded the instrument shelter and hygrothermograph, leaving the rain gauge in place. Left the ranch at 1330, mileage 55240, and returned via Camatti Canyon, Creston, Paso Robles, and Jolon, where I traversed back roads over previously surveyed quail areas, then direct to Berkeley. Saw 5 dead deer apparently road killed, including a fork-horn buck and a fawn, and several deer in Hunter-Liggett area. Arrived at Berkeley 1915, mileage 55506, total trip mileage 516 miles.

June 11. Strawberry Canyon, Alameda Co.

0830 Weather at Behavior Lab. clear, moderate westerly wind, good visibility. Vegetation quite wet with dew. Scattered one can of grain. Serviced rain gauge (0.80").

Journal.

June 13. Strawberry Canyon Alameda County.
1445, Instructed Catherine Pyle in servicing instruments & feeding and watering quail during my absence from Berkeley the next six weeks. Serviced hygrothermographs, filled water hole, & spread a can of grain.

~~July~~

July 26 Strawberry Canyon, Alameda, Calif.
1045 Returned to Behavior Lab. pen after six weeks absence; filled water hole & scattered grain. The aspect of the vegetation has changed, but not too radically; grasses are withered & no longer thick anywhere. Thistles and hemlock are tall, thistles to 7-8 feet and in bloom, hemlock taller (to 10 feet, but dried out. Bristly ox-tongue and very few other forbs are lush & thriving. All the eucalyptus shrubs have put out much new growth and will require pruning to keep them in the limits of the enclosure. Baccharis are well established and dominating their immediate areas. Mouse holes in the ground are very numerous —

C. B. Pyle notes on California Quail in Behavior Lab., June-July, 1964.

June 16. 0945. Hen incubating nest in A-5, D-9 nest unattended. Found 1 egg on ground in D-10 corner.

June 19. 1130. Hen incubating nest in D-9. Hen not on nest in A-5 - three broken egg-shells in the nest, no contents, apparently hatched.

June 23. 0930. All eggs but one hatched in each nest.

June 26. A hen was sitting on the abandoned nest in B-3.

June 30. Hen brooding chicks in nest in D-9. B-3 nest abandoned. Many chicks ran from D-9 nest.

July 7. 1500-1630. Birds flushed from D-10 to A-10, count of 8 chicks.

July 14. 1430-1630. 7 chicks feeding in C-10.

July 21. 1030-1230. One chick flew with adults.

July 24. 1000-1200. 5 chick flew.

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July 26. Strawberry Canyon, Alameda Co.
another reduction by trapping is indicated. Weather at 1100 is clear, stratus along the hillside having just cleared in this area; light variable winds.

July 28. At Behavior Lab. pen at 1840; filled water hole and spread grain in the pen. Weather clear, very light wind. Sun low, illuminating about half the ground area of the pen. Observed birds from the observation hut until 1940. 1925 Sun is now completely gone from all parts of the pen, but still shining on upper half of the surrounding trees.

July 30. 1355 at Behavior Lab. pen. Weather clear (after thick stratus all morning), light winds. Set 30 live-traps for mice, all just to the left of the observation hut where workings are very numerous. 1530 Removed 4 *Microtus* from traps and reset all traps.
1945. Returned to pen; clear and light wind; sun only on tops of surrounding trees. Observed from

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July 30 Strawberry Canyon, Alameda County the hut until 2005, then serviced traps, taking 11 *Microtus* for a total of 15.

July 31. Drove through Wildcat Canyon enroute to Behavior Lab. in Strawberry Canyon, arriving 0830. Weather clear, light to moderate SE'ly wind with no turbulence. Serviced mouse traps, taking 3 *Microtus* (total 18), reset + relocated traps. Serviced HC, spread grain + filled water hole, and cleared more thistles from pen

Aug. 1. At Behavior Lab. pen at 1125; weather 9/10 Cu and Sc locally, over East Bay Hills only; light wind, with occasional moderate gusts. Serviced mouse traps, took 7 *Microtus* for a total of 25 to date. Clouds are moving rapidly east to west and gusts becoming stronger by 1200. Reset and relocated traps, taking two more *Microtus* (total 27), and ended visit at 1240.

Aug. 2. 1315 Serviced mouse traps, took 7 *Microtus*, total 34. Reset + relocated traps.

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Aug. 3. Strawberry Canyon, Alameda County.
0930. Weather at Behavior Lab. pen overcast ST, thin showing sun's disc, base 200' above station. Moderate SE'ly wind with slight to moderate turbulence. Clouds began breaking about 1000 and sky was clear by 1030, when I left the station. Serviced mouse traps, taking 7 Microtus (total 34), and reset.

Aug. 4. 1005 At Behavior Lab. pen, weather clear, light wind with slight turbulence. Serviced mouse traps, spread additional grain. Took 6 Microtus total now 40. Cleaned, re-baited, & reset all traps (except one broken), left at 1045.

Aug. 5. 0900 Checked quail & talked with personnel at the "Little Farm" in Tilden Park, then drove through Wildcat Canyon to check quail. 1015 at Behavior Lab., weather clear & very warm, moderate wind with slight turbulence. Serviced mouse traps, took 6 Microtus (total 46). Cleared E-W corner of brush & obscuring weeds. Left station at 1040, and circled on

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Aug. 5. Strawberry Canyon, Alameda Co.
Got the shrub area west of the station which was formerly home range of a large covey. Building operations have taken over about half the area. No quail were seen or heard; saw two feral cats, and started a doe near the edge of the Baccharis; then saw two fawns in the brush nearby!

Aug. 6. 0615 at Behavior lab. pen two minutes before sunrise - weather clear, light southeasterly wind, stratus visible over the coast. 0711 First rays of sun visible over Grizzly Peak; trees uphill from the pen are fully illuminated, 0716 Sunshine reaching the ground in the pen along the upper edges. 0735 Patch of AC in SE sky, 2/10 cover. 0820 Ended hut observations, entered pen to service traps; took one Microtus (total 41) and reset traps. Left station at 0840.

Aug. 7. 0900 at Behavior lab. pen, weather 4/10 CU above 4000 feet, light SE'ly wind. Serviced traps, took 6 Microtus (total 47) and one lizard. 0940 Serviced hygrothermograph

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Aug. 7. Strawberry Canyon, Alameda County.
Reset, relocated + rebaited with a grease and chick-chow mixture, about 2/3 of the mouse traps, previously used bait was peanut butter with rolled oats. Filled water hole + scattered several handfuls of grain. Left station at 1015.

Aug 8. 0845 weather at Behavior Lab. pen: obscured in ST covering bay and hills, moderate southerly wind with slight turbulence. Serviced traps, took 4 Microtus, total 51. Replenished water + grain, and left at 0900.

Aug. 11. 1635 At Behavior Lab. pen. Weather clear, light winds, slight turbulence. Water hole completely dry. Filled water hole + scattered several handfuls of grain. Serviced traps, took 4 Microtus (total 55) and one Junco banded Green + lavender on right leg. Left unsprung traps but did not reset any.

Aug. 12. 0840 At Behavior Lab. pen. Weather clear, calm. 0940 Collected remaining mouse traps, none of

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Aug. 12. Strawberry Canyon, Alameda County
which were sprung, and returned them to the museum. Checked hygrothermograph + cleared a few weeds obstructing view of E-10 corner.

Aug. 14. 0805 At Behavior Lab. pen. Weather obscured in heavy stratus, covering bay + hills, base just off the ground along slope of hill. Visibility 1/4 mile. Light winds.

Water pool is dried up. Refilled. Scattered grain, + serviced instruments.

1108. Returned to Behavior Lab; weather clear, moderate southerly wind and moderate turbulence, good visibility. Numerous small birds (goldfinches, juncos, and song sparrows) bathing in the water hole have already reduced the water level very considerably. Observed from hut until 1132, then refilled water-hole and removed hygrothermograph for adjustment.

Aug. 16. 1915 At Behavior Lab. pen. Weather clear and calm. Water-hole nearly dried up, a little free water in the bottom. Sun is clear of the enclosure structure, still shining on nearby trees.

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Aug. 17. Strawberry Canyon Alameda County.
0840. At Behavior Lab. pen. Weather clear (low stratus below over the bay), light easterly wind with no turbulence. Re-installed hygrothermograph. Filled water hole. The moist earth near the water hole shows signs of quail "dusting" here, and two quail flushed from there as I entered. I wet down the two dust bath areas in C-5 and C-6 before leaving the station at 0855.

Aug. 20. At Behavior Lab. pen 1425, weather clear, light variable wind, good visibility. Water hole dried up, but water still in inverted lid next to observation hut. Filled water hole, scattered grain, and checked instruments. A notable absence of small birds this hot afternoon.

Aug. 24. At Behavior Lab. pen 0925. Weather: obscured in stratus along west side of hills, base 300' below station; sun breaking through to the east. Water hole dry. Serviced hygrothermograph, filled

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Aug. 24. Strawberry Canyon, Alameda Co. water hole, and scattered grain. 1410. Left Berkeley for Hastings Reservation, mileage 56895. 1730 Arrived Hastings Natural History Reservation, Monterey County, mileage 57039. Weather clear, very light wind, and warm.

Aug. 25. 0655 to 0740 observed quail from parked car alongside the bunk house, getting a good count. Spent the morning summarizing weather data obtained locally, then in the afternoon visited Bird's in Calera Canyon & Haltiner's in Monterey.

Aug. 26. 0630 Observed from parked car in same position as yesterday but no quail. A Cooper's (or large Sharp-shinned) Hawk was hunting over the area, making numerous passes at cottontails, and even harrying a jackrabbit on the hillside. Although quite large and an efficient flyer, this bird was in juvenile plumage. 0815 Left for McMillan Ranch, mileage 57127.

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Aug. 26. McMillan Ranch, San Luis Obispo Co.: 1130 arrived at McMillan's, mileage 57255. After lunch drove to the ranch of Mr. Everett Hatch, 7 miles south of Cholame on Annette Road, and obtained data on rainfall this year from January on. Returned to ranch at 1445, mileage 57286. Camatti Canyon 1620. Took station near "gallinaceous guzzler" 9 road miles up the canyon from San Juan Creek crossing. Observed the area from the car until 1722. McMillan Ranch 1900 to 1950 observed quail near old house. Left for Hunter Liggett Military reservation at 2020, mileage 57318, and arrived at 2150, mileage 57395.

Aug. 27. Hunter Liggett Military Reservation, Monterey County. 0700 From camp site in back of mission observed quail & turkey vultures (q.v.). Then checked in to game management office; no replacement for Fred Cook has been obtained, so management is at a standstill. Sgt. Richardson reports that 14 guzzlers have been ordered, but it is not clear who will decide on the location. At 1145, after

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Aug. 27. H.L.M.R., Monterey County. delay due to running out of gas, began a tour of the Argyle Road quail area. 1207 Took station at guzzler "TP", having counted 20 deer along the road in about 8 miles, mostly well travelled highway. Most were does with fawns, one doe with twins, several fawns without a mother in sight. Area around the guzzler shows sign of use, several animal trails, and one dusting place with quail tracks. Observed 30 minutes, until 1237.

Continued around back road to A.S.P., covering 5 road miles along the back roads. Left Hunter Liggett about 1:20 p.m., arrived home 4:50 p.m., mileage 37604. Total trip mileage 709.

Aug. 28. Strawberry Canyon, Alameda Co. at Behavior Lab. pen at 1000, weather overcast with thinning ST over the hills, base est. 500' above station, moderate wind with slight turbulence. Water-hole empty. Filled water hole, spread grain, moistened + stirred up dusting places. Removed Taylor hygrothermograph.

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Aug. 31. Strawberry Canyon, Alameda County

1720. At Behavior Lab. pen, weather 9/10 CU after light rain this morning totalling .03". Fresh, turbulent westerly winds. Water hole dry. Filled water-hole. Shifted feed to Purina Hen chow (vice Chick-chow, finer) and scattered one can. Installed Friez hygrothermograph.

Sept. 4 1330 At Behavior Lab. pen, weather clear, quite warm, light winds. Cut tops of eucalyptus shrubs where they are growing through the top of the pen. Filled water hole and scattered one can of grain

Sept. 7. 0945 At Behavior Lab. pen, weather overcast SC, est. 3000', moderate southerly wind, slight turbulence. A little water remaining in the water hole. 1000 Serviced Friez hygrothermograph, filled water hole, and scattered one full can of grain.

Sept. 11. 0905 At Behavior Lab. pen, weather - sky obscured in SF over the hills, base indistinct. Very light winds, visibility ½ mile.

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Sept. 11. Strawberry Canyon, Alameda Co. Water hole in the pen still has a little water in the bottom. Refilled water hole & scattered one full can of grain.

Sept. 14. 0810 at Behavior Lab. pen, weather clear & calm. Top of pen wet with drops of dew(?). Water hole still half full. Serviced instruments, filled water hole, & spread one can of grain.

Sept. 17 0855 at Behavior Lab. pen, weather obscured in ST clouds with base 100' below station, visibility 1/4 mile, calm. Completed trimming eucalyptus shrubs of shoots going through the top & those overhanging the instrument shelter. Filled water hole & scattered 1/2 can of grain, since previous ration was not completely used up. 0940 light wind now sweeping cloud through the area, however no fog-drip, no condensation on the wire of the pen, and no moisture on ground or vegetation. Ended observations at 0945.

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Sept. 21. Strawberry Canyon, Alameda Co.
0910 at Behavior Lab. pen, weather clear, warm, and dry (24% RH), fresh northerly wind with strong turbulence. Water hole + pan both completely dry. Serviced hygrothermograph, filled waterhole and pan, and scattered one full can of grain.

Sept. 24. At Behavior Lab. pen 0900, weather clear + warm, fresh NE'ly wind with moderate turbulence. Refilled dry water hole + scattered 1/2 can of grain, the previous ration not yet being used up. Also threw a little water on dusting areas to dampen them.

Sept. 27 At Behavior Lab. pen, 1815. Weather 4/10 Sc, moderate westerly wind with slight turbulence. Water hole dry. Filled water hole + scattered a can of grain and at 1820 started observation period from the hut.

Sept. 28. At Behavior Lab. pen, 0905. Weather 4/10 remnant of clearing Sc, light wind with slight turbulence. Killed a feral house cat just

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Sept. 28. Strawberry Canyon, Alameda Co.
outside the pen. Serviced hygro-thermograph. Water hole was low, with evidence of much splashing - dickey birds have evidently been bathing a great deal.

Oct. 2. 0830 at Behavior Lab. pen, weather clear, calm, and warm. Water hole dry; refilled, and scattered one can of grain.

Oct. 5. 0830 at Behavior Lab. pen, weather 7/10 AC at 8000' (est.) with fog over the bay, top 600' below the station, calm. Water hole dry. Serviced instruments, filled water hole, and scattered 1 can of grain plus some pigeon grit.

Oct. 12 0805 at Behavior Lab. pen, weather: dense fog over Berkeley Hills, lighter to the east and at the station, visibility 75 yards, sun's disk visible, becoming bright by 0820; vegetation only slightly damp and no condensation on the wire of the pen. Water hole dry. Serviced instruments, replenished water and spread 1 can of grain.

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Oct. 19. Strawberry Canyon, Alameda County
0915 at Behavior Lab. pen, weather clear, fresh N to NE winds, moderate turbulence, warm and very dry - 75°, 15% R.H. Water hole dried up, all vegetation, except eucalyptus and Baccharis shrubs, & a few clumps of grass is dried up and brown.
Serviced instruments, filled water hole and pan, and scattered one can of grain; observed from hut from 0930 to 0947.

Oct. 22, 0955 at Behavior Lab. pen, weather clear, light NE'ly winds with no turbulence, still warm & dry. Water hole empty, but bottom still damp. Refilled water hole and scattered one can of grain, left pen at 0958, observing birds from the hut.

Oct. 25, Sunday. Changed to Pacific Standard time.

Oct. 26. 0805 at Behavior Lab. pen, weather overcast locally, base covering Grizzly Peak. Alto cumulus noted enroute. Light westerly wind, no turbulence. Serviced instruments, filled water hole, and spread 1 can of grain.

Journal.

Oct. 27. Strawberry Canyon, Alameda County.
0825. Serviced rain gauge, 0.02".

Oct. 28. Light intermittent rain last night became moderate to heavy continuous rain this afternoon.

Oct. 29. 0755. Serviced rain gauge, 0.92", season total 0.94". Rain continued during day and night intermittently, occassionally heavy.

Oct. 30. 0925 at Behavior Lab. pen, weather, few scattered clouds, light northerly winds, ground wet from last night's rain. Serviced rain gauge, 0.45", season total 1.39".

Oct. 31. 0830 Left Berkeley for Hunter Liggett Military Reservation, mileage 60512, arrived 1130 mileage 60688 After checking into Room 1-C (VIP), and dinner, checked hunter's bags from 1330 on. Weather overcast with low + middle clouds, sun occassionally visible. Light winds and good visibility. Checked bags until ~~0610~~ 1810. 1900 Left for Mc Millan Ranch, arriving about 2030.

W. J. Francis
1964.

Journal.

Oct 31. McMillan Ranch, San Luis Obispo Co.
Stayed there only long enough to extract quail records from 1945 to 1949, and discuss matter of mutual interest. Left about 2245 and arrived at Hunter Liggett at 0010 Nov. 1, mileage 60844 (one way HLMR to McMillan's 77 miles, about 1½ hours driving).

Phone: King City 385-3216.
Deputy Post CDR - 6
Billeting Office - 34 / 88

Nov. 1. 0850. Left for Berkeley. Expense at HLMR $3.50 room, $0.55 phone. Arrived in Berkeley 1200, mileage 61,020. Trip mileage 512.

Nov. 2. Strawberry Canyon, Alameda County.
0820. At Behavior Lab. pen. Weather light rain, sky obscured in clouds with base 500 feet below station, very light wind, visibility 50 yards. Serviced weather instruments. Rain 0.76 in Sat. night showers plus light rain Sunday night and this morning. Season total 2.15". Left station at 0845.

W. J. Francis
1964.

Journal

Nov. 3. Strawberry Canyon, Alameda County.
At Behavior Lab. pen at 0938. Weather clear and calm, ground wet from past rain. Serviced rain gauge, 0.02"; total 2.17".

Nov. 9. 0900 at Behavior Lab. pen weather overcast with intermittent rains, cloud base at the level of the station, visibility variable 100 yards up. Rain gauge 1.33" total 3.50". Wind variable & gusty, reducing to calm between windy spells. Serviced weather instruments and spread 1 can of grain.

Nov. 10. 1000 Serviced rain gauge in Behavior Lab. pen, 0.87", total 4.37". Weather cold, overcast with showers accompanied by strong gusty winds, visibility good. Both yesterday and today noted new sprouting vegetation all over the enclosure, not yet identifiable.

Nov. 11. 0955 Serviced rain gauge, 0.37", total 4.74". Scattered ½ can of grain in A-2. Cold rainy weather.

Journal.

Nov. 12. Strawberry Canyon, Alameda Co.

0830 Serviced rain gauge in Behavior Lab. pen, 0.65", total 5.39". Weather overcast with intermittent rain + showers continuing, cloud base at station level, good visibility below clouds.

Nov. 13. 0915. Serviced rain gauge, 0.06", total 5.45". Weather clear, visibility good, moderate SW'ly winds, ground still very wet after recent rains. Scattered another half-can of grain in A-2; previous ration consumed.

Nov. 16. 0830. Weather at Behavior Lab. pen clear, fresh NE'ly wind with strong turbulence. Serviced weather instruments and scattered grain mostly in A-2, some in center clearing.

Nov. 19. 0900 Weather at Behavior Lab. pen clear, moderate to light northerly wind with moderate turbulence, good visibility. Scattered one can of grain, mostly in A-2. — new sack of hen chow has much higher proportion of milo and less cracked corn than former sacks.

Journal

Nov. 22. Strawberry Canyon, Alameda County

1200 Weather at Behavior Lab. few clear, sunny, light wind with haze on the bay. Serviced rain gauge 0.33" total 5.78". Inspected prebaited area across Grizzly Peak Blvd. Most grain consumed, sparrows in the vicinity, no definite quail sign.

Nov. 23. 0830 Weather at Behavior Lab few fair, 4/10 very thin Ci, thick layer of surface fog over the bay, calm + good visibility at station. Serviced instruments, scattered one can of grain. Ground very wet with heavy dew. Rain gauge 0.01" of fog drip, total 5.79".

Nov. 25. 0910 Weather at Behavior Lab. few: thick St layer from low levels to above the station obscuring sky. Visibility 100 yards; calm. Ground, vegetation, and structures very wet from past rain and fog drip. Serviced rain gauge, 0.06", total 5.85". Plenty of grain still present where scattered on Monday. All quail (11) present.

Journal

Nov. 30. Strawberry Canyon, Alameda County.
0848 At Behavior Lab. pen, weather: station obscured in ST with base 300 feet below station, visibility 100 yards, calm, no appreciable fog drip but vegetation damp with dew. Serviced instruments; rain gauge 0.12", total 5.97". Scattered one can of grain in A-2 and center clearing.

Dec. 4. 0815 Serviced rain gauge in Behavior Lab. pen, 0.19", total 6.16". Scattered a full can of grain. Prebaited with another can of grain in *Baccharis* patch across the highway.

Dec. 7. 0805. At Behavior Lab. pen weather overcast AS with occnl breaks, fresh N'ly wind with moderate turbulence. Serviced instruments, rain gauge 0.13", total 6.29". Scattered one can of grain in A-1 to A-3 only.

Dec. 7 1500. Set two quail traps, #1, 2'×4', in brush across the dirt road below the Behavior Lab. fence; #2, 3'×5', across Grizzly Peak Blvd in *Baccharis* brush adjacent to Eucalyptus grove.

Journal

Dec. 8. Strawberry Canyon, Alameda County
0900 Checked traps, no birds, with very little bait missing if any. Weather fair, 5/10 thin Ci, light wind with slight turbulence. Noted that seedlings just sprouted in disturbed ground along the roadside is almost entirely thistle. The new young growth inside the enclosure appears at this stage to be Medicago.

Dec. 9. 1600 Checked traps.

Dec. 11. 0810 Serviced rain gauge, 0.28"; total 6.57". Weather: sky obscured in base of ST, calm. Ground and vegetation very wet from past drizzle and fog drip. Checked traps outside the Behavior Lab.

Dec. 12. 1620. Serviced traps.

Dec. 13. 1525. Serviced traps.

Dec. 14. 0820. Weather at Behavior Lab. pen fair, 1/10 Ci, light northerly wind with no turbulence. Removed hygrothermograph for repair, and

Journal.

~~Dec~~ Dec. 14. Strawberry Canyon, Alameda Co.
scattered a can of grain in the pen.
0840 Serviced traps.
1630 Returned to check traps again, and left them both unset so that birds may become accustomed to them without the trauma of capture. Reinstalled hygrothermograph at 1655. Weather overcast, ST with indefinite base and mist over the hills, light intermittent rain and drizzle, no wind.

Dec. 18. 0935 weather at Behavior Lab. pen - sky obscured in base of stratus over the hills, intermittent light rain. Ground & vegetation very wet from last night's rain. Calm, visibility 200 yards. Scattered a can of grain, mostly in A1 to A3. Serviced rain gauge 0.16", total 6.73". Set and baited the two quail traps outside of the Behavior Lab. and saw & heard quail in the brush near trap #2. Newly sprouted forbs in the enclosure now appear to be Medicago by their form, although no flowers or fruits are yet for definite identification. They are quite widespread.

Journal.

Dec. 19. Strawberry Canyon Alameda Co.
1300 Checked quail traps, and serviced rain gauge (0.49", total 7.22"). Weather clear, gusty and shifting winds, unlimited visibility.

Dec. 20. ~~1~~545. Checked quail traps and serviced rain gauge, 0.39"; total 7.61".

Dec. 21. 1100 checked quail traps, released one previously banded quail from trap #2, and left the traps unset. 1110 Serviced weather instruments in the Behavior Lab. pen, rain 0.69", total 8.30". Scattered one can of grain in the pen. Weather overcast, ST over the hills with base 200' below the station (variable), middle clouds visible through occnl. breaks. Strong southerly wind with moderate turbulence. Intermittent rain after heavy showers during last night.

Dec. 24. 1200 at Behavior Lab. pen, weather: station obscured in heavy ST covering the hills, base about 600' below the station. Calm,

Journal

Dec. 24. Strawberry Canyon Alameda Co.
visibility 50 yards. Serviced rain gauge, 4.00" total 12.30". Scattered a can of grain in the pen, mostly in A-2. Additional new growth noted appears to be Geranium in A-4 to A-8, and a large patch of hemlock in E-10 and nearby areas.

Dec. 27. 1235 at Behavior Lab. pen, serviced rain gauge (1.56", total 13.86"). Weather: Variable cloudiness, average 7/10 CB and CU, showers throughout the area. Fresh southerly wind with moderate turbulence; excellent visibility. Scattered one can of grain in A-1 and A-2.

Dec. 28. 1000 at Behavior Lab. pen, with new sack of 25# Purina Hen Chow. Serviced instruments, rain gauge 0.37", total 14.23". Weather cloudy, variable CU and towering CU, ave. about 9/10 at the station. (Rain and hail last night). Moderate southerly winds with slight turbulence. Scattered one full can of grain in the pen.

Journal.

Dec. 31. Strawberry Canyon Alameda County.
1120 At Behavior Lab. pen. Serviced rain gauge, 1.72", total 15.75"; storm since Dec. 18, 9.18". Weather mostly clear with few CU, moderate westerly wind, slight turbulence, good visibility. Scattered one can of grain in the pen. Set and baited traps outside the Behavior Lab.
1630. Checked traps — took several birds in trap #1, but before examining them, I slipped and fell on a hard end of brush, and gashed my right hand badly at the base of the thumb. I kicked over the trap to release the birds, then returned to the highway and flagged down a passing motorist who took me to Cowell Hospital, where the wound was dressed and eight stitches taken. Meanwhile Ginger, whom I called from the hospital, went up to the traps, collected my gear, and brought back the Ford which I had left up there, after releasing two birds that were entangled in the net used for removing the birds.

BOTANICAL SPECIMENS.

FR-101. March 26, 1963. Hastings Reservation, Monterey County.
Erect herb 8-12 inches tall, flowers deep yellow with orange at base. (Amsinckia - Fireweed.) On bank between dirt road and parking lot in front of office buildings.

Amsinckia douglasiana DC
Buckthorn weed; Fireweed.
(Boraginaceae)

FR-102 March 26, 1963. Hastings Reservation, Monterey County.
Dissected leaves in green rosettes, prostrate to partially erect. Flowers nearly erect, lavender-purple; fruit with long beaks, 1-1¼"

Erodium cicutarium L'Her.
Growing on same bank as FR-101 above; also throughout area, especially on disturbed and compacted ground.)
Red-stem Filaree. (Geraniaceae)

FR-103. March 26, 1963. Hastings Reservation, Monterey County.

Erect stem from basal rosette of leaves, few stem leaves, newer basal leaves nearly erect with outer basal leaves prostrate. Flowers pure white. (Allocarya?) In middle of grassy field near creek, intimately associated with very small *Erodium* plants. Old truck tracks across field are marked by especially dense patches of this plant.

Plagiobothrys *tenellus* Gray

(Boraginaceae)

FR-104. March 26, 1963. Hastings Reservation, Monterey County.

Low herb about 4 inches high, flowers exceeding leaves by an inch or two. Light blue flowers with white centers. On grassy slope below brushy hillside facing west.

Nemophila *menziesii* H.+A.

Baby Blue Eyes.

(Hydrophyllaceae)

FR-105. March 26, Hastings Reservation, Monterey County.

Herb with very short semi-erect basal leaves, much taller flower stems with single terminal flower, yellow and white. Occurring in numbers on same hillside as preceding, but restricted to a small area about 30' diameter.

FR-106. March 27, Hastings Reservation, Monterey County.

Erect + well shaped, rather open, shrub, 12 feet tall, on chaparral slope, associated with live oak and chamise. Stems + twigs stiff. Leaves dark green on top, lighter below, rather leathery. Pedicels pale lavender, flowers white with lavender tinge.

Ceanothus cuneatus

(Possibly a hybrid form, according to J. Davis).

Buck-brush.

FR-107. March 29, 1963. McMillan Ranch, San Luis Obispo County. Woody shrub 3 feet tall, bushy, many branching stems from base. New foliage soft and herbaceous. Composite yellow flower heads, newly opened heads with dark red streaks on ray flowers. Numerous persistent dead branches. On north-facing brushy slope above Marin Springs. One of the co-dominants in this area, with sagebrush ~~[illegible]~~, and locally bush lupine. (Golden-bush – Haplopappus)

Stenotopsis linearifolius.

FR-108. March 29, 1963. McMillan Ranch. Woody shrub 3 feet tall single main stem, branching above, dark green leaves, silvery below. Flowers in terminal panicles, blue to purple with touches of white and yellow on young flowers; older & lower flowers darker. Same hillside as preceding, this specimen growing from same clump as Haplopappus and sage ~~[illegible]~~

(Bush Lupine)

Lupinus albifrons

FR-109. Woody shrub 3½ feet tall, thin brittle branches, lower one nearly prostrate, many stems much branched near base. Foliage variable on main stems from same root system, very similar to *Haplopappus*. No flowers, new growth on lower part of branches terminating in panicles of last years fruits. Same hillside as the previous (McMillan Ranch, Mar. 29, 1963).

Artemisia californica

California Sagebrush.

FR-110. McMillan Ranch, March 29, 1963. Semi-prostrate woody shrub, main stem lying on ground, with branches at all angles including vertical. No flowers, last years fruits terminal on dead ends of twigs. Small, entire, alternate leaves dull gray-green, somewhat coriaceous. On same hillside as above species, but much less frequent.

Eriogonum fasciculatum

California Buckwheat.

FR-111. March 29, 1963. McMillan Ranch.
Shrubby herb with foliage in low dense cluster about 8" tall, with tall fruiting stems 2 to 3 feet tall. These stems dark red, but covered in part or entirely with fine white tomentum; dead and bearing last years fruit in axils or terminal, solitary. Foliage light gray-green felted thinly on front & thickly on back with whitish tomentum.

Erigonum gracile Benth.

FR-112. March 29, 1963. McMillan Ranch
Climbing herbaceous vine, young specimen erect without support to 12", others climbing on Golden-bush and Sagebrush. Flowers small, white, axillary in small panicles, soft burr-like fruit maturing first at lower parts of stem. Tendrils one of twice branched and opposite light green, glandular leaves; coiling into a tight spiral to produce tension on holdfast held with only a few turns. On same hillside as previous specimens, higher, near crest of hill.

Echinocystis fabacea var agrestis
Marah fabaceus var agrestis

FR-113. Spreading woody shrub, much branched from base 3½ feet tall; stems very brittle - apparently dead, but with fresh leafy stems growing from them. No flowers, but with Salvia like seed pods on a few stems. Growing on east facing slope of Portuguese Canyon, here co-dominant with "sagebrush". Many limbs of these shrubs are quite dead. (March 29, McMillan Ranch).

FR-114. McMillan Ranch, March 29, 1963. Low shrub growing at base of the above, rather woolly herbage. Flowers bright orange red ~~terminal~~ on soft herbaceous stems, in a panicle becoming a rather dense tuft terminally.

Woolly Paintbrush
Castilleia foliolosa

April 4, 1963

FR-115. Strawberry Canyon, Alameda Co. In 100'x100' enclosed pen in Behavior Lab, gentle SE facing slope, recently disturbed incident to construction. Low herb, dense central rosette on ground, outer stems becoming partly erect. Inflorescence terminal or axillary corymbs. Erodium cicutarium

FR-116. Strawberry Canyon, Alameda Co. Same location. Prostrate herb many stems radiating from central root, small yellow flowers; legume coiled into a bur.

Medicago apiculata Willd.

FR-117. Low herb much branched from single taproot leaves on very long stem-like stalks much exceeding main stems, deeply dissected. Flowers purple, 5-merous, in pairs in axils of leaf stems.

Geranium dissectum L.
Common geranium.

April 4, 1963

FR-118. Strawberry Canyon, Alameda Co.
Prolific spreading herb, branched or
single stems in dense cluster.
Flowers orange-red in axils of
opposite leaves. Same location
as FR-115.

Anagallis arvensis L.
Poor-man's Weatherglass
(Pimpernel)

FR-119. Vine-like herb, with com-
pound leaves terminating in tendrils.
Branched at base at and below
ground with single tap root. Flowers
purple with light centers to
papilionaceous petals. Same
location as FR-115.

Vicia sativa L.
Common vetch.

April 4, 1963.

FR-120. Strawberry Canyon Alameda Co. Erect herb up to 3' tall, bright yellow flowers in panicle denser at tip, terminal and axillary. Same location as FR-115.

Brassica campestris L.
Common Yellow Mustard.

FR-121. Strawberry Canyon, Alameda County. Same location as FR-115. Spreading herb with bright yellow flowers 3/4" in diameter, few leaves linearly dissected. Fruit appears to be cluster of achenes. Many petals & stamens, 5 dull yellow sepals.

Ranunculus californicus Benth
California Buttercup.

May 7, 1963.

FR-122. Herbaceous plant with long rather stout tap root with prominent nodules. Flowers varicolored blue, white, and purple. On gentle slope, south facing, open grassland with variety of forbs + some shrubs; in the "Willows" area of McMillan Ranch, San Luis Obispo County, Calif.

Lupinus

FR-123. McMillan Ranch, San Luis Obispo County, same slope location as previous. Herbaceous plant with inflorescence in whorls on central leafless scape, leaves all basal with long (4-5") stems, inflorescence exceeding leaves. Flowers uniform lavender except whitish below.

Lupinus

May 7 1963.

FR-124. McMillan Ranch, San Luis Obispo County, Calif. Lax herb with one to several stems from base growing on level meadow in association with grasses + herbs, some bush lupines nearby. Small yellow flowers in ~~terminal~~ clusters terminal on axillary peduncles. Plants in a dense patch 15' × 7', held erect by other plants to a height of 10", but recumbent at the edges.

Medicago hispida

Aug. 12, 1963.

FR-125. Robust erect ~~shrub~~ herb branched from central stem, 4-5' feet tall, bright yellow flower head, herbage prickly, leaves also glandular. In pen in Behavior Lab, Strawberry Canyon, Alameda County, Calif. Concentrated in areas A-5 to A-9 and B-5 to B-7, replacing former growths of Medicago.

Picris echioides
Bristly Ox-tongue.

FR-126. Aug. 12, 1963.

Pen in Behavior Lab. Strawberry Canyon, Alameda County. Erect herb 3-4 feet tall, single unbranched stem in younger specimens, branched near the top only in the larger. Distribution; scattered amongst other Compositae, mostly in areas formerly with Medicago and Vicia. Flower heads bright yellow, only partially opened.

Madia sativa Chile Tarweed.

FR-127. Aug. 12, 1963.

Pen in Behavior Lab., as above. Erect herb 3-4 feet tall, extremely prickly throughout, purple flower heads. Single stem at base, moderately branched in upper half. Scattered over the area in association with other Compositae.

Cirsium lanceolatum

Bull Thistle

FR-128 Aug. 12, 1963.

Behavior Lab. pen, Strawberry Canyon, Alameda County. Erect herb with several branches from base, prickly throughout. Purple flower head, only partially opened. Leaves mostly near base, flower scapes only few small leaves. On open grassy area, few other plants nearby.

Silybum marianum

Milk Thistle

208346